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Railway Age

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

RAILROADING HAS CHANGED

When freights were speeded to 40 miles per hour; when locomotives were built with 1,000 horsepower per axle; when 1,000-mile runs were instituted, the old materials became inadequate. » » Don't expect of ordinary carbon steel impossible qualities of strength and shock resistance. Meet the new conditions with alloy steels and irons developed for specific railroad conditions. » » Agathan alloy staybolts will withstand the higher boiler pressures; special alloy sheets will reduce maintenance in large fireboxes. » » The greater stresses in pins, rods and axles find Republic ready with special Agathon alloy steels for this service. Agathon Nickel Iron combines surface hardness for wear resistance with a tough, shock-resisting core. » » These are but a few of the many special railroad materials with which Republic is helping the railroads meet the new operating conditions.

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AGATHON STEELS

RAILWAY AGE

"A Transportation Policy" of Railroad Destruction

The Chicago Tribune has been for years the severest newspaper critic of railway management. Within recent years it has been a severe critic of railway regulation. During the last eighteen months it has been the severest critic of the economic policies of the New Deal. The *Railway Age* on September 15 published an editorial questioning how the Tribune reconciled its editorial policies regarding the Old Deal in transportation and the New Deal in industry, and asking it to state specifically the changes in government policies affecting the railways and competing carriers that it favors. The Tribune on December 10 published an editorial entitled "A Transportation Policy" purporting to answer our editorial.

"The Chicago Tribune has expressed the opinion," it said, "that rejuvenation of the railways must commence with an overhauling of regulatory law." It then stated that it favors the following policies: (1) Rescinding the power of the Interstate Commerce Commission to grant reparation; (2) Modification of the fourth section of the Interstate Commerce Act "to enable the railways to secure profitable traffic to termini served by water"; (3) Discontinuance of operation of the government-owned barge lines; (4) Permission by the Commission for the railways to establish trainload rates; (5) Permission by the Commission to the railways "to make contracts to promote the freest possible interchange of commodities"—whatever that may mean; (6) Adoption of "a comprehensive regional consolidation plan" leading to "economies based on the elimination of multiple routes that do not compete but merely duplicate service," which "will constitute the longest possible step toward carrier health." "The demand for the extension of regulation to waterway and highway transport," the Tribune declared, "originated in railway circles and represents an effort to prolong the status quo of the railway industry. The regulatory laws suggested would be meaningless gestures that would in no way assist in the solution of the railways' problem because the traffic either would be driven to private transport or dried up."

How About Subsidization?

We agree with most of the specific policies favored by the Tribune. They do not, however, constitute an adequate transportation policy, they do not answer some of the most important questions asked by the *Railway Age* on September 15 and they do not make the Tribune's policies regarding the Old Deal in transportation in the least consistent with its policies regarding the New Deal in business. Among other things, the *Railway Age* asked, "Does the Tribune favor government subsidization of other carriers to provide competition with the railways? . . . If it favors government subsidies to provide competition with the railways, does it favor subsidies to provide competition with other industries as somnolent as it claims the railways have been? . . . If it favors government subsidization of competition with either one or numerous industries, why does it rage daily against such New Deal policies," as the Tennessee Valley project? These questions the Tribune does not directly or indirectly answer. From its evasion of them we can draw only the conclusion that it favors continuance of the present policy of subsidizing inland water and highway transportation by charging no tolls for the use of waterways and no rentals for commercial use of the highways proportionate to the cost to the taxpayers of such use.

There is no difference whatever of either governmental or economic principle between levying upon the taxpayers to furnish waterways and highways for use at less than cost for the conduct of private business in competition with the railways, and using the taxpayers' money in the Tennessee Valley and other similar projects to provide power at less than cost in competition with privately-owned public utilities. The Tribune says that regulation of highway and water carriers would either drive the traffic upon them to

private transport or dry it up. This statement is merely another way of evading the question whether, in the Tribune's opinion, commercial transportation upon waterways and highways, whether conducted by common carriers or by "private" carriers owned by those whose goods they transport, such as the Tribune's large fleet of trucks, should be subsidized by allowing them to conduct their business largely at the expense of the taxpayers.

Strict Regulation—but Only for Railroads

In its editorial of September 15 the *Railway Age* also asked, "Would the Tribune reduce railway regulation until it was just equal to that of other carriers? Or, would it reduce railway regulation and increase regulation of other carriers until they reached equality?" The editorial in the Tribune of December 10 by plain implication answers these questions. It opposes any increase in regulation of water and highway carriers. At the same time it contemplates continuance of existing provisions of law such as those (1) prohibiting, under heavy penalties, any form of rebating or unfair discrimination by railways, (2) prohibiting any change in railway rates without notice to and authorization by the Interstate Commerce Commission, and (3) requiring railways to get permission from government authority to increase or reduce service by building or abandoning lines. This leaves the Tribune in the position of vehemently denouncing government regimentation of business in general and government regulation of railways in particular as a cause of alleged railway stagnation and, at the same time, of advocating a continuance of regulation which would leave the railways tied hand and foot while being attacked upon every side by competitors that it contends should be left free to use every competitive weapon denied to the railways.

Socialization for Railways—Subsidies for their Competitors

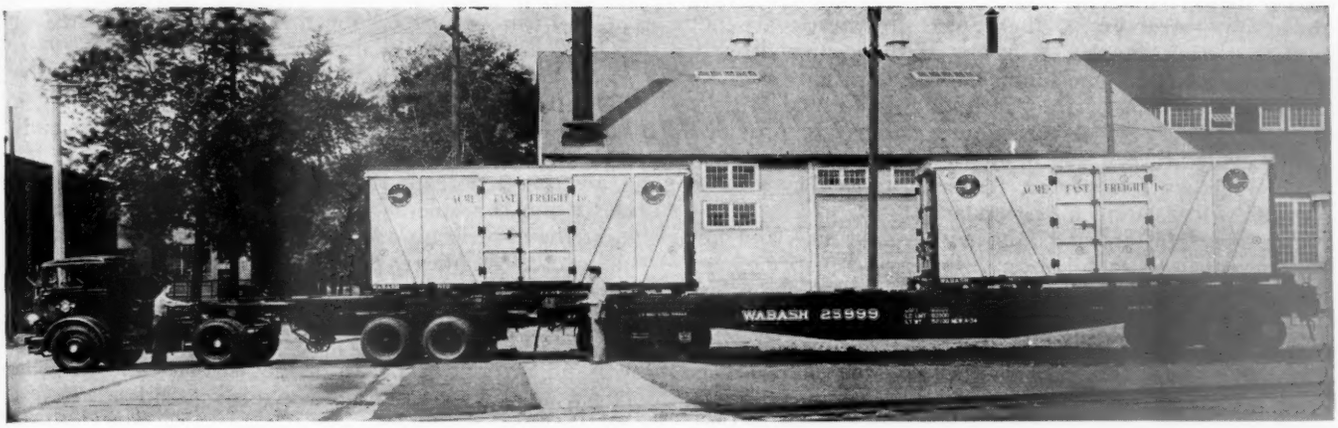
The Tribune's transportation and its New Deal policies, as we understand and interpret them, are an extraordinary mixture of both state socialism and private enterprise because they give the railways none of the benefits of either and give to their competitors the benefits of both. It would apply socialism to the railways to the extent of having the government continue strictly to regulate their service and rates and allow them no privileges of private enterprise excepting those of making such net earnings or losses, raising such capital, making such improvements and rendering such service as they could under such government regulation. It would apply socialism to competing carriers only by subsidizing them at the expense of the taxpayers and leave them untrammeled private enterprises with respect to their rate-making and all other parts of their management and service. And then, having advocated continuance of transportation policies that impose government made handicaps exclusively upon the railways and give subsidies exclusively to their competitors, the Tribune concludes with apparently unconscious irony, "The solution of the railways' difficulty lies within the industry itself." Prejudice, unfairness and inconsistency could no farther go.

No Government in Business—Excepting for Our Benefit

As baldly and palpably inconsistent as they are, the Tribune's policies regarding the Old Deal in transportation and the New Deal in business faithfully express the attitude of most business men, especially in the Chicago district, which, strangely enough, is the most anti-railway community in the country, although it is also the greatest railway and railway manufacturing center and therefore is the hardest hit by the reduction of railway employing and purchasing power. Even in 1933, when railway buying was relatively the smallest in history, only 26 railways operating 95,000 miles of line from which the *Railway Age* got detailed statistics, made substantial purchases from 1,377 different companies in Chicago, or from four times as many companies as in any other city in the United States. The persistency with which the business interests of Chicago favor transferring traffic from the railways to waterways and highways indicates a determination on their part to reduce as much as they can the advantages they derive from the Chicago district being a great railway and railway equipment and supplies manufacturing center.

As has been pointed out in these columns for twenty-five years, most business men proclaim their immutable opposition to socialistic policies in general, and then infallibly advocate every socialistic policy that they believe will be even temporarily advantageous to themselves. Radicals and socialists have not put the government into business in this country. Even the New Dealers would have accomplished much less of this than they have within the last eighteen months if they had not been so ably and energetically assisted by business men seeking with short-sighted selfishness to use the regulating, taxing and spending powers of government to exploit other industries and classes for their own especial advantage.

The present dangers of railroad bankruptcy and government ownership are not principally due to socialists or New Dealers. They are principally due to business men professedly opposed to New Deal policies but in favor of perpetuating Old Deal policies in transportation as socialistic as any New Deal policies whatever. We regret to have to put our esteemed contemporary, the Chicago Tribune, most fervid critic of the New Deal, at the head of the list of those advocating policies so unfair and socialistic that their continued application to transportation would pave the way straight to government ownership of railways and that their general application to industry and business would pave the way straight to state socialism.



Transfer of Containers Between Flat Car and Truck Is Effected without Employment of a Crane

Co-ordinated Fast-Freight Handling System Developed

Special containers, rail flat cars and highway tractor-trailers for collection, rail transportation and highway delivery of freight

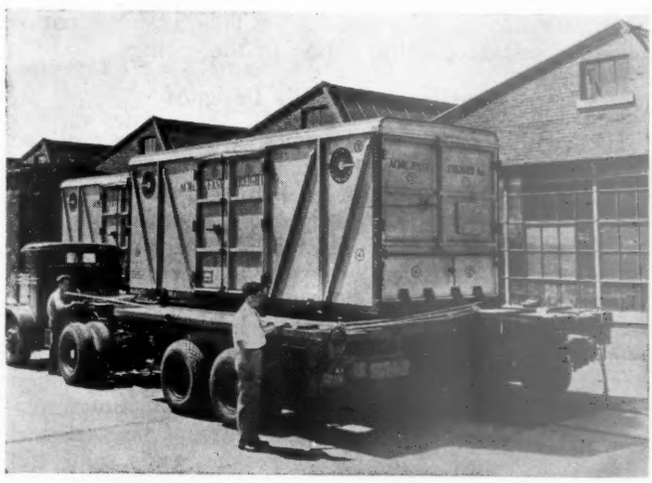
TWO special shock-proof flat cars for the transportation of freight loaded in containers have been built recently by the American Car & Foundry Company, one for the Wabash and the other for the Delaware, Lackawanna & Western. These cars were constructed in accordance with designs prepared by Wm. P. Kellett and are to be used by the D. L. & W. and the Wabash in cooperation with the Acme Fast Freight, Inc., 88 Lexington avenue, New York, in order to determine the economic possibilities of a co-ordinated transportation service for car-load as well as less-than-car-load freight traffic.

Shock-Proof Container Car

A specially designed 40-ton flat car is employed for the rail transportation of the containers. This car is not only designed for receiving, fastening and transporting the containers, which are mounted on casters, but is also particularly noticeable for the provisions against damage to the lading or to the containers from shocks that may occur in yard or train movements. The car is 45 ft. 6 in. long over end sills and 9 ft. 6 in. wide, the truck centers being spaced 35 ft. 3 in. apart. As now constructed with ordinary carbon steel, its light weight is 52,100 lb., which gives a load limit of 83,900 lb. with 5-in. by 9-in. journal axles. However, by substituting medium manganese or other alloy steels having equivalent physical properties, this weight can be reduced by approximately 12,000 lb. The trucks have a wheel base of 5 ft. 6 in. and are equipped with the Barber lateral motion device and Miner spring snubbers. The draft gear is of the Miner selective travel type which provides 4½ in. end movement.

The car underframe is of skeleton construction, the sills being of the fish-belly type built up of steel plates and angles. The center and side sills are tied together by the end sills, two bolsters, two crossbearers and three cross-ties.

Mounted on the underframe is a movable carriage or car floor, 4 ft. 1¾ in. above the rail with containers loaded. This is built up of 6-in. channels at sides and ends, four longitudinal Z-bars (two spaced close together on each side at a distance of 2 ft. 1½ in. from the center line of the car) with eight transverse cross-ties made up of 4-in. angles and Z-bars, the whole being covered with ¼-in. plates on which are mounted guide strips for the container casters and various anchoring or retaining devices for securing the containers in transit. This carriage is carried on 18 side rollers, 3½ in. in diameter, and 18 intermediate rollers, 4 in. in diameter, and spaced on lines 2 ft. 1½ in. from the center line of the car. The rollers rest on short sections of track mounted on the



Sidewise Transfer of Containers May Be Employed if More Convenient

underframe structure. These pieces of track are not level, but each one has a hump at the center directly under the rollers. The hump has an elevation of ½ in. above the balance of the track and is formed with a radius of 6 in. Suitable retaining clamps are provided at the cross-bearers which tie the carriage and underframe together but permit free end movement of the carriage with relation to the underframe.

The body bolsters are quite wide—27½ in.—and are steel castings. In each bolster two heavy coil springs are mounted lengthwise of the car and in line with the intermediate carriage rollers. The springs have projecting followers and stops, the distance over the spring followers being 36⅞ in. The carriage or movable car floor is fitted with downwardly projecting stop castings against which the bolster spring followers are in contact. This arrangement permits the carriage to make a longitudinal cushioned movement of 4½ in. each side of the normal transverse center line. Opposed to the movement of the carriage are the four cushion bolster springs referred to, each of which exerts a force of 36,000 lb. when fully compressed. The carriage rollers normally rest on the high points of the track, as already described. An end

A Special Tractor-Trailer with Elevating Platform Is Used for Highway Transportation of Containers

movement of the carriage with its load causes it to be lowered ¼ in., at which point a contact is made with 36 friction plates, this contact taking place at one-half the full endwise movement. The springs, in order to return the carriage to its normal central position, are thus obliged not only to take care of the longitudinal displacement, but also to raise the load. This arrangement is said to eliminate hunting action of the springs.

Containers Carefully Designed

The containers for dry commodity freight are of the covered box type, having an inside width of 7 ft. 4 in., a length of 20 ft., a height of 7 ft. 4½ in., and 1,047 cu. ft. capacity. They have a light weight of 5,650 lb. and are stencilled for a load limit of 25,000 lb., which applies only when the containers are to be transferred for highway transportation. Should the car with its containers be utilized as an ordinary box car and unloaded without removal of the containers, the permissible axle loading applies. With containers of this design each could then be loaded with 36,300 lb. of freight. Two containers constitute a car load. The containers are of pressed-steel frame construction with plywood sides, ends, roof and sub-floor, the actual floor being 13/16 in. tongued and grooved lumber. Hinged side doors are provided and each end can be opened for the full area by means of two hinged doors and a drop tail gate.

Each container is mounted on eight casters of the double roller, swivel type, in two rows, each 2 ft. 2½ in. from the center line. The two casters on the door ends are linked together so as to form a steering device for use when transferring the container on or off the car.

After the containers have been moved into place on the car they are secured at each corner by buffer anchors —the center ones being double ended to hold the ends of each of the two containers, while the end anchors are fitted with screws by means of which the clamping may be made rigid. These anchor housings may be folded down and covered by pieces of hinged plate and thereby obtain a flush floor while the containers are loaded onto or off the car. Auxiliary side locks are also provided.

Tractor-Trailers

For road transportation of the containers especially designed tractor-trailers are employed. The trailer is fitted with an elevating platform, either or both ends of which may be raised or lowered by means of hydraulic cylinders to secure the easiest transfer of the containers between car and trailer. Suitable clamping means are provided for securing the container to the trailer. The tractor or motor has a winch and cable for transferring the containers. Normally the transfer takes place by rolling the container endwise from car to trailer, or vice versa. It has been found that a container may be thus transferred in less than one minute. If desired, however, the tractor-trailer may be spotted at the side of the car and the container transferred by being rolled off sidewise. This method of unloading is not quite as simple, but may be completed in from three to five minutes.

Employment for 750,000 Urged In Grade-Crossing Work

WASHINGTON, D. C.

EMPLOYMENT for nearly three-quarters of a million men, now on relief rolls, can be provided for within 90 days in a national program of grade-crossing elimination, on projects for which plans are already drawn, involving an expenditure of approximately $865,000,000 on 12,951 projects requiring 783,000,000 man-hours of labor, according to a comprehensive survey made public by the Security Owners Association. More than 66 per cent of Class I railroad mileage is covered by the report.

Classified by geographical areas, the figures assembled from special public service and highway commission studies, verified by railroad engineers, are as follows:

	Number Projects	Cost	Man-Hours
Eastern district	8,712	$601,379,985	528,569,782
Southern district	3,013	190,883,475	188,402,741
Western district	1,226	71,350,607	66,517,183
	12,951	$863,614,067	783,489,706

States which would benefit most from this program include: Michigan 2,742 projects, costing $159,000,000; Ohio 1,480 projects, costing $105,000,000; Indiana 2,240 projects, costing $129,000,000; Illinois 1,405 projects, costing $88,000,000; New York 414 projects, costing $55,500,000; New Jersey 127 projects, costing $27,700,000 and Pennsylvania 208 projects, costing $24,000,000.

In the Southern states, Virginia, West Virginia and Kentucky lead with $78,000,000, $54,000,000 and $38,900,000 respectively. In Western states, California, Kansas and Texas lead with an average of $9,000,000 each. Each of the projects listed already has been passed upon by state commissions in public hearings and its removal recommended or ordered.

How States Would Share in Proposed $865,000,000 Fund

	Number of Projects	Estimated Cost	Estimated Man-Hours Of Work
EASTERN DISTRICT			
Connecticut	6	$800,000	930,000
Delaware	16	2,651,000	2,669,499
District of Columbia	7	1,130,000	1,115,500
Illinois	1,405	88,002,344	68,234,562
Indiana	2,240	129,014,000	103,934,576
Maryland	47	6,231,078	6,491,077
*Massachusetts	10	1,290,000	1,485,000
Michigan	2,742	158,567,500	130,216,733
New Jersey	127	27,702,000	29,276,000
New York	414	55,594,974	64,650,992
Ohio	1,480	105,369,700	96,492,759
Pennsylvania	208	24,162,389	22,071,084
*Rhode Island	4	485,000	560,000
*Vermont	6	380,000	442,000
Total	8,712	$601,379,985	528,569,782
SOUTHERN DISTRICT			
Alabama	43	$1,610,338	1,810,950
Florida	25	597,500	671,972
Georgia	94	4,996,550	5,585,580
Kentucky	687	38,910,000	32,195,252
Mississippi	3	191,587	156,886
North Carolina	142	11,040,000	12,416,026
South Carolina	19	470,500	529,143
Tennessee	11	725,000	815,364
Virginia	1,129	78,128,000	82,307,495
West Virginia	860	54,214,000	51,914,073
Total	3,013	$190,883,475	188,402,741
WESTERN DISTRICT			
Arizona	17	$1,089,000	866,700
Arkansas	22	1,236,832	1,104,034
California	99	10,050,000	8,776,090
Colorado	58	3,343,000	2,178,750
Idaho	6	297,000	332,793
Iowa	51	2,910,000	1,456,500
Kansas	125	7,002,985	7,995,532
Louisiana	20	1,427,775	1,300,294
Minnesota	95	4,190,834	2,814,653
Missouri	65	6,069,381	7,096,022
Montana	20	865,000	916,789
Nebraska	54	2,040,000	1,950,516
Nevada	6	400,000	415,612
North Dakota	40	1,529,800	1,182,856
New Mexico	22	1,006,000	1,065,500
Oklahoma	110	4,098,463	4,678,993
Oregon	20	2,400,000	1,834,000
South Dakota	20	649,000	279,280
Texas	210	9,965,437	11,013,880
Utah	14	965,000	337,750
Washington	32	2,775,000	3,228,548
Wisconsin	111	6,737,100	5,462,090
Wyoming	9	303,000	230,000
Total	1,226	71,350,607	66,517,183
Totals United States	12,951	$863,614,067	783,489,706

* Incomplete.

More Stimulative Than Relief Disbursements

That this vast program of public improvement, aimed at promoting highway safety as well as relieving unemployment, would be more stimulative to industry than equivalent disbursements through federal emergency relief during the past six months, was also pointed out by Milton W. Harrison, president of the association. Not only would 85 per cent of such funds go directly and indirectly into wages, spread through every state in the union, he declared, but expenditures for land purchases, which absorb a large percentage of allotments for housing, would be comparatively small.

"Forces of recovery set in motion by this simultaneous release of purchasing power in nearly 10,000 centers of population would be far-reaching in their effect," Mr. Harrison said. "The problem of relief today is primarily urban. Not only does such a program, by the speed with which it can be placed in execution, thus meet the present winter's emergency, recognized as the most critical in the whole depression, but in the quantities of steel, cement, timber and other supplies required, it stimulates those industries in which unemployment has been particularly acute.

"Expenditures for the rehabilitation of the transportation system, it should not be forgotten, led the way to recovery from the 1920 depression. That lesson should not be overlooked today. We stand on the threshold of a new era of higher speeds, by motor cars, by the railroads and in the air. They cannot be realized if thousands of archaic 'Stop, Look and Listen' signals remain to impede traffic. The mounting toll of accidents, the congestion at crossings and the resulting race of motorists to get 'out in front,' emphasizes the problem's growing seriousness.

"Such work should properly be regarded as relating to highway competition rather than aid to the railroads. Over or under-passes for traffic are vitally a part of the modern highway. That in the past they should not have been included as part of the original construction cost, toward which the federal government itself has advanced $2,308,000,000 since 1917, seems almost incomprehensible. Indeed, due to the rapid extension of motor highways, the number of grade crossings is greater today than a decade ago.

"Yet we have narrowly persisted in the view that elimination of such traffic obstructions should be at the expense of the railroads, notwithstanding the fact that every mile of highway constructed lessened their own revenues. And because the railroads have been unable to carry their part of this non-income producing capital cost, it has now largely come to a halt.

"That this work is essentially a public obligation, and as such falls logically within the realm of the government's public works program, is now increasingly recognized. Many organizations, including the National Conference of Mayors, the Associations of Public Service and Highway Commissioners and the League of New Jersey Municipalities, recently have by resolution urged upon federal authorities the undertaking of such activity.

"With the nation entering the sixth winter of depression, and relief needs forecast by public officials as greater than last year, removal of the more hazardous of the 237,000 grade crossings which still imperil safety and impede traffic, would seem to commend itself not merely as a logical step in the constructive solution of the pressing problem of unemployment, but in dealing justly with the railroads and ending perils which last year were in part responsible for the loss of 30,000 lives and three-quarters of a million injuries on the nation's highways."

THE QUEENSLAND (AUSTRALIA) GOVERNMENT RAILWAYS for the year ending June 30, 1934, reported a net profit after interest charges of £160,118, as compared with a 1932-33 net of £57,654. The 1933-34 gross revenues were £6,118,898 or £233,230 more than in 1932-33, showing an increase over a previous year for the first time since the year ending June 30, 1929. The ability of this government line to report a surplus after interest charges during the past two years has been due to a write-down of the capital investment account which was effected in 1931 through the passage of the Railway Capital Indebtedness Reduction Act. The effect of this law was to write off £28,000,000 from capital and to reduce interest charges correspondingly; for example interest charges for the year ending June 30, 1931, were £3,037,458, whereas for the past fiscal year the figure was £1,555,410.

Making 60-Mile Track Good for 100 Miles an Hour

How the Burlington has prepared for high-speed operation of Zephyr-type trains between Chicago and St. Paul, Minn.

WHEN the Chicago, Burlington & Quincy places its Zephyr-type trains in service between Chicago and the Twin Cities shortly after the first of the year, it will run them over tracks that have been carefully adjusted to the high speeds necessary to maintain the shortened schedules that will be in effect. The plan of operation contemplates 6½-hr. runs in both directions, or approximately 3½ hr. less than the present time of the fastest trains now operated between Chicago and St. Paul, a distance of 431 miles. To do this it will be necessary for these trains to maintain an average speed of approximately 85 miles an hour outside of yards, except through certain stations and junctions and around a few curves where speed restrictions will be in effect.

To permit operating speeds so greatly in excess of those now maintained, it has been necessary to make certain adjustments to the track structure and certain refinements in track maintenance which are not required for the usual speeds of steam operation. This applies particularly to curves which, obviously, have not heretofore been elevated for the high speeds at which these trains will be driven. The track adjustments include two minor line revisions and the realinement of one curve to eliminate or reduce objectionable curvature which would have required speed restrictions. Included among the refinements are revisions of curve elevations, the spiraling of all unspiraled curves of one degree or sharper, the lengthening of existing spirals on curves of two degrees and over and careful adjustment of the runoff at the ends of curves. At several points also the track is being realined through junction switches to permit higher speeds in one direction.

Characteristics of the Line

For the first 38 miles out of Chicago, to Aurora, Ill., Burlington trains to St. Paul use the Chicago-Denver line of this road, a three and four-track line having light curvature and easy grades. At Aurora, the line to St. Paul branches off to the northwest, extending as a single-track line for 107 miles to Savanna, Ill., on the Mississippi River, with light grades and curvature except in the vicinity of Oregon, Ill., and approaching Savanna, where curvature as high as four degrees and gradients up to 0.8 per cent are encountered. From Savanna to St. Paul, a distance of 286 miles, the line is double-track and lies along the east bank of the Mississippi River, with maximum grades of 0.2 per cent in both directions and with many curves, few of which, however, exceed one degree. The tracks are laid with 100, 110 and 112-lb. rail, except for a few stretches of 90-lb. rail, on treated ties and gravel ballast.

Test Runs Show Schedules Are Practicable

When it was decided to place the new trains in service on this line, test runs were made with the original Zephyr to determine whether the proposed schedule would be practicable. Obviously, this had to be done over the tracks as they were. In the first place, time was not available to make major adjustments, nor would this have been desirable. In fact, no one was sure, even in the light of the 13-hr. run between Denver and Chicago on May 26, just what refinements in maintenance would be necessary to permit regular service under the proposed schedules. However, the officers of the road had the background of the very thorough study of track and curve conditions for high speeds that had been made in advance of the Denver-Chicago run, as well as the experience gained and the data accumulated in the operation of the train during the progress of that run.

Accordingly, the first step in preparing for the trial runs was to check and record the elevation of every curve on both tracks between Chicago and St. Paul. It was recognized that while uniformity of elevation around curves is desirable for all speeds, it may be vital when they approach or exceed 100 miles an hour. For this reason, while the elevation was not changed on any curve in advance of the test, such irregularities in elevation as were found were smoothed out. Further than this, however, no track work, other than routine maintenance, was done preparatory to making the runs.

Existing elevations were chartered on a condensed alinement map, and the allowable speed was calculated for every curve and recorded on the same map. Speed restrictions contained in the operating rules were similarly charted for the sections of track involved. From these data, speed zones were established and charted on the map, which also contained a condensed profile.

When this work had been completed, the chart was

A Typical View Along the Bluffs Bordering the Mississippi River Between Savanna, Ill., and St. Paul

submitted to the automotive engineer in charge of the train, who prepared a schedule based on the train power-plant output. Next, based on the speed zones and the mechanical schedule, operating schedules were prepared for runs in both directions between Chicago and St. Paul. Aside from the unusual speeds, these schedules contained no special features, except that they required the movement to be made always in the normal direction of traffic to insure that no stretch of track would be missed during the tests. Special mention is made of this feature, since it is customary on the Burlington to move trains on multiple-track lines without regard to normal direction.

To avoid possible interference with scheduled passenger trains, the time was chosen so that the runs could be made without infringing on the time of preceding trains. No special provision was made for freight trains, however, it being left to the dispatchers to see that they were in the clear. In other words, it was desired, so far as practicable, to duplicate normal operating conditions in making the trial runs. Carrying out this idea, the only information the section forces received as to the time that the runs would be made was contained on the morning line-up of trains which the dispatcher gives to every foreman daily. From this, it will be seen that the preparatory work was simple in comparison with the elaborate preparations that were made for the Denver-Chicago run.

Curve Elevations Depart from Established Practice

In the meantime, there was in preparation a new table of curve elevations, in the calculation of which the departure from established practice was rather sharply defined. Ordinary elevation tables are based on speeds lower than those required by the new schedules, while they are also predicated on much higher centers of gravity for cars and locomotives. The center of gravity at the motor end of the leading car of the new trains is 53½ in., while for the remaining cars it is only 51 in. It is evident, therefore, that the overturning moment for a given speed is considerably less in the new trains than in those for steam operation. For this reason, the elevation on a given curve may safely be less for the new trains than for the older ones at equal speeds. Taking this factor into consideration, elevations have been established with a view to passenger safety and comfort.

Obviously, on the sharper curves, a theoretical elevation for 100 miles an hour would be excessive and might be a serious handicap to operation at slow speed, particularly for freight trains. For this reason, five inches has been selected as the maximum elevation and restrictions will be placed on all curves where it is necessary to bring the speed within limits allowable for this elevation.

From this table, tentative elevations for all curves were marked on the chart, and sufficient copies were made to provide one for each of the observers who were assigned to the train during the trials. Eleven observers were stationed at various points in the train, to note the riding qualities of the track and other features connected with the operation. A carefully calibrated speedometer was located in the pilot's compartment of the motor car, and a Sperry track recorder was placed about the middle of the train to check the individual judgment of the observers as to lateral and vertical movement of the cars and the comfort of the riding qualities. The speed was also recorded at every mile post as a further check on the report of the observers.

Acting as co-pilots, the system and district engineers maintenance of way rode in the cab with the motorman to keep him informed of track, grade and alinement conditions, and the allowable speeds at all points so that he might take advantage of all opportunities to accelerate the speed and avoid too early deceleration and consequent loss of time.

Observers Checked Riding Qualities of Track

All observers, including the co-pilots, made notes of the riding qualities of every curve, tangent, turnout (at junctions), etc., and where those at the front and rear of

the train thought changes were desirable, they made memoranda of the work they were to suggest. One observer checked mile posts for the Sperry record so that the indications on the tape could be identified with the track upon which they were made. It is a matter of interest that when the notes of the several observers were compared, they were found to be in substantial agreement, the differences being only such as might be expected by reason of their distribution through the train. In every case, also, their comments were confirmed by the Sperry record.

After the trial runs were completed, special tests were made to determine the most satisfactory rate of runoff from these elevations. These indicated that for maximum comfort at the higher speeds, the easiest approach to the curve can be made when the rise is at the rate of not less than 1¼ in. per second. At 85 miles an hour, this requires a runoff of 1 in. in 100 ft.; at 100 miles an hour it will be $1\frac{3}{16}$ in. Since the rate had to be fixed, that for 85-mile speeds was selected as the most suitable for all speeds, except on restricted curves where the same rate of 1¼ in. of rise per second was applied for the lower speeds.

It is of special interest that it developed quite definitely during the trial runs that no fundamental changes will be necessary in either the character of the present track construction or maintenance methods, to permit the operation of this so-called superspeed equipment. In addition, it was found that, owing to the light curvature which is a characteristic of this line, no increase in elevation was necessary on many of the curves. The reason for this was that owing to the lower center of gravity of the new trains, the existing elevation was sufficient to cause comfortable riding at higher speeds. Substantially all of the curves sharper than one degree required some increase in elevation, however, to permit maximum speed. In a few instances where an elevation of five inches is not sufficient to permit the maximum speeds that will be developed elsewhere, speed restrictions will be imposed.

Where shortened schedules, such as will be in effect on these runs, are to be maintained, every minute counts. It has been found that trains of this type can be accelerated from a standstill to 60 miles an hour in a surprisingly short interval. Above 60 miles an hour, however, the rate of acceleration drops progressively with the speed that is attained. For these reasons, sustained speed, so far as practicable, is highly desirable. In checking the obstacles that might require reductions in speed, it was decided, therefore, to make a slight realinement through the switches at three junction points in order to avoid a reduction in speed in one direction or the other at these points.

No Fundamental Track Changes Necessary

It is impressive that as a result of these trial runs and of the Denver-Chicago run, it has been demonstrated quite conclusively that no fundamental change in track or maintenance methods will be necessary to permit the speeds so far developed, and after the adjustment of curves and superelevation, necessary for comfortable riding, have been made, there will be little increased maintenance required. However, more attention must be paid to slight inequalities in line and surface and, most important, the elevation on curves must be uniform. In addition, if the operation of trains of this or other high-speed types becomes more general, it is quite likely that certain track changes, such as longer turnouts and reduction of curvature which limits speed, will be found desirable.

All of the work of preparing for these faster schedules is being done under the direction of H. R. Clarke, engineer maintenance of way, assisted by C. D. Peckenpaugh, general superintendent; R. L. Simms, district engineer maintenance of way; and J. P. Falk and S. L. Fee, superintendents. C. W. Breed, engineer of standards, calculated the allowable speeds for all curves preparatory to the trial runs, and prepared the new table of curve elevations. C. J. McCarty, district engineer, was in charge of the work of applying the curve spirals.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended December 1, which included the Thanksgiving Day holiday, totaled 488,118 cars, a reduction of 73,195 cars as compared with the week before and of 11,478 cars as compared with the corresponding week of 1933. This was also a reduction of 58,977 cars as compared with the corresponding week of 1932, which did not include the holiday. All commodity classifications showed reductions, both as compared with the week before and as compared with last year, except ore, which showed an increase of 740 cars above the total for last year. The summary, as compiled by the Association of American Railroads, follows:

Revenue Freight Car Loadings

Week Ended Saturday, December 1, 1934

Districts	1934	1933	1932
Eastern	106,169	110,932	126,045
Allegheny	92,021	95,794	101,570
Pocahontas	33,164	31,668	37,212
Southern	75,804	74,763	82,936
Northwestern	57,796	56,547	61,996
Central Western	76,930	83,999	84,456
Southwestern	46,234	45,893	52,880
Total Western Districts	180,960	186,439	199,332
Total All Roads	488,118	499,596	547,095
Commodities			
Grain and Grain Products	23,791	26,474	31,692
Live Stock	15,917	14,392	20,140
Coal	102,646	104,461	121,060
Coke	4,586	5,834	5,388
Forest Products	18,632	20,977	16,663
Ore	3,579	2,839	1,511
Merchandise L.C.L.	137,415	141,579	168,699
Miscellaneous	181,552	183,040	181,942
December 1	488,118	499,596	547,095
November 24	561,313	585,738	493,318
November 17	584,525	602,708	572,623
November 10	594,932	583,073	536,687
November 3	612,457	614,136	587,302
Cumulative Total, 48 Weeks	28,681,633	27,132,412	26,243,765

The freight car surplus for the first half of November averaged 349,320 cars, an increase of 21,751 cars as compared with the number for the last part of October. The total included 214,695 box cars, 94,560 coal cars, 18,953 stock cars and 8,467 refrigerator cars.

Car Loading in Canada

Car loadings in Canada for the week ended December 1 totaled 45,515 cars, as compared with 42,328 for the corresponding week last year and 47,748 cars for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
December 1, 1934	45,515	17,575
November 24, 1934	47,748	20,054
November 17, 1934	50,264	19,359
December 2, 1933	42,328	18,384
Cumulative Totals for Canada:		
December 1, 1934	2,162,703	1,022,308
December 2, 1933	1,888,498	885,088
December 3, 1932	2,044,293	906,107

Centralized Traffic Control Installed on the Alton

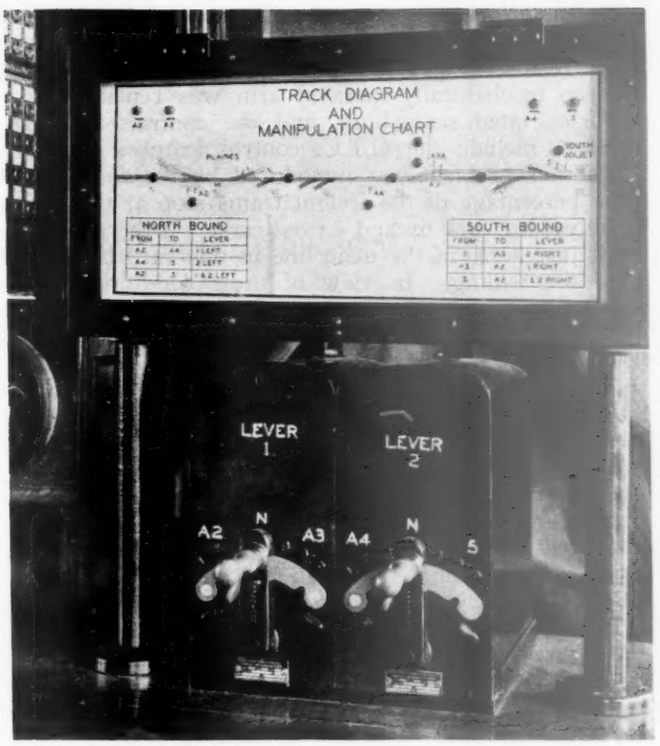
Train movements facilitated on busy section of single track

BY installing centralized traffic control, consisting of an arrangement for directing train movements by signal indication on three miles of single track, the Alton has been able to improve train operation and effect a saving in operating expense. Between Mazonia and South Joliet, 25 miles, the Alton has two single-track lines, the one via Pequot being a low-grade line used principally by through freight trains, while the more direct line is used principally by passenger trains. Between Pequot and Plaines, 16 miles, the freight line lies parallel to the main line of the Santa Fe, and for a number of years the single-track lines of the two roads have been used jointly for a double-track operation.

In this arrangement, eastbound Santa Fe trains returned to the double-track Santa Fe line at Plaines, while eastbound Alton trains operated over that road's own single-track line between Plaines and South Joliet. On the other hand, westbound Alton freight trains were directed to the Santa Fe line at Joliet, and operate on this line to Pequot. This operation was necessary because there was no westbound connecting track between the Alton and the Santa Fe at Plaines. Recently such a track was constructed and the Alton can now run its westbound, as well as its eastbound, freight trains on its own line between Joliet and Plaines.

The traffic now handled on this section of single track includes about nine freight trains and one passenger train each way daily, in addition to a switching train which works in this territory about one hour daily to serve the industries. If this territory were operated as single track, under time tables and train orders, so many delays would result that it was decided to install a simple arrangement for directing train movements in either direction by signal indication, thus constituting a centralized control system.

At the east end of this project, South Joliet, the Alton has a 28-lever mechanical interlocking, which operates the crossovers and switches at the junction of its two single-track lines with the double-track line to Chicago,

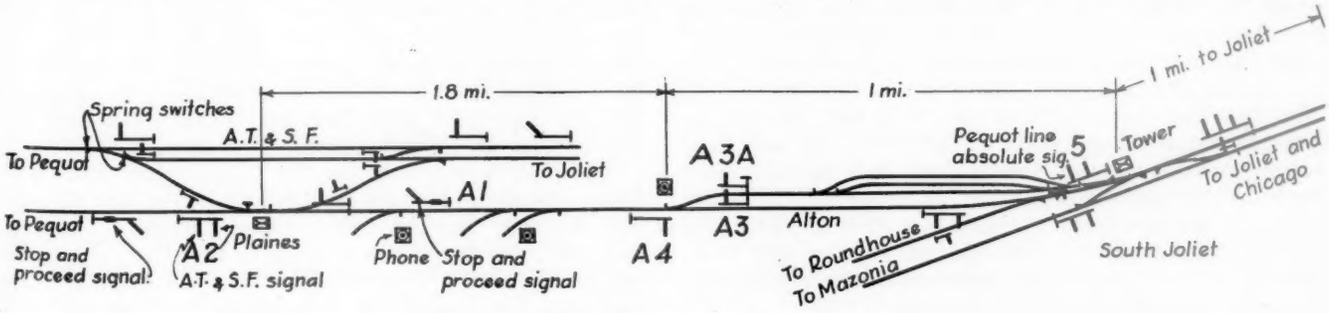


The Illuminated Track Diagram and Levers Are Mounted on the Operator's Desk

as well as switches leading to the yard and to the engine-house. It was, therefore, convenient to locate the control machine for the C. T. C. system in the tower of this interlocking where it could be operated by the leverman.

At the west end of the project, Plaines, there is an office with an operator who operates the hand-throw switch, near the office, leading from the Alton track to the Santa Fe main line. A desk-lever control arrangement was also in service in the office for the control of the power-operated switch at the east end of the Santa Fe passing track, as well as to control the various signals. When the new westbound connecting track between the Alton and the Santa Fe track was constructed, it was arranged for this operator to operate the hand-throw switch at the east end of this connection, as it was also located near the office. In order to prevent this switch from being reversed when a westbound Santa Fe train is approaching, an electric switch-lock was installed, the control of which extends for two full automatic blocks on the westbound Santa Fe track. At the west end of this connection, a spring switch was installed for the main line switch as well as for the Santa Fe passing-track switch.

With this track layout and means of operating the switches, the next problem was to arrange the signals for directing train movements. At South Joliet, west-



Track and Signal Plan of C. T. C. Installation

bound interlocking signal No. 5 was previously used to direct trains on the main line. As this signal was properly located for use in directing train movements, the top mechanically-operated arm was replaced by a motor-operated semaphore, and the controls were revised to include the C.T.C. control features required.

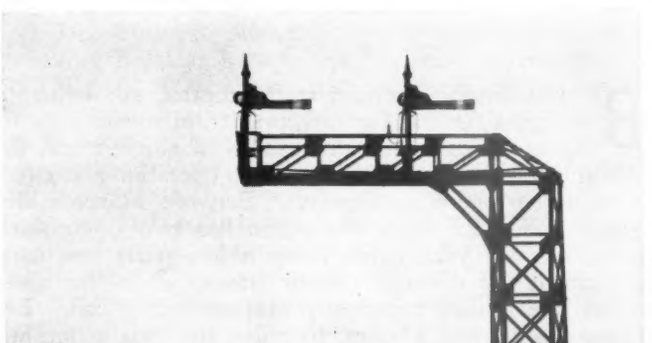
Another problem was introduced by the fact that a large percentage of the freight trains stop at the South Joliet yard to pick up and set out cars. Furthermore, the track just north of the main line in this yard is used as a passing siding. In view of these conditions, some arrangement was necessary to protect and to direct train movements when entering or leaving the main line via the switch at the west end of this yard. Therefore, as shown on the plan, an eastbound and a westbound absolute signal, as well as an absolute signal leading off of the passing track, were installed at this switch, the two westbound signals being located on a cantilever bridge. The use of these controlled signals results in the block between South Joliet and Plaines being cut in two sections, which has proved to be of decided advantage because a westbound train can be started out of South Joliet while an eastbound train is going from Plaines to the west switch. Trains can thus meet and pass under full automatic-block protection and with the movements directed by signal indication.

At Plaines, the eastbound home signal, *A2*, has two arms, the top arm governing to the Alton single track, and the lower arm over the diverging route leading to the Santa Fe. In order to use the top arm of this signal to direct train movements as a part of the new C.T.C. system, the control was revised, the new feature being that the control of the proceed aspect depends also on the position of the C.T.C. lever at South Joliet.

It should be noted that all of the absolute signals used for directing train movements are semi-automatic, the control being selected through track circuits and switch circuit controllers in the usual manner, thus retaining the automatic safety features of control, on top of which is incorporated the C.T.C. control of the proceed aspects. In order to accommodate the switching train, a telephone is located at each of the main spur-track switches. When a train leaves the main line to serve some industry, it cannot again return to the main line or throw a switch until the conductor calls the leverman at South Joliet and gets permission to do so.

The C.T.C. control machine, in the tower at South Joliet, consists of two General Railway Signal Company desk levers and an illuminated track and signal diagram. Each lever operates to three positions, being normally on center. When lever No. 2 is thrown to the left, it controls signal *A4* and when thrown to the right it controls opposing signal 5. Likewise, lever *1* controls signals *A2* and *A3*. The position of the west yard switch selects between the signal on the main line, *A3*, and the one on the siding, *A3A*. As a lever in one position controls one of two opposing signals, the interlocking between the two signals is thus accomplished automatically, because a lever can, of course, be in only one position at any one time. There is, therefore, no mechanical locking or electric locks on the levers, the leverman being able to operate them at any time he sees fit. The fact that the control is set up is indicated by the illumination of a small lamp marked "S", one such lamp being provided on the diagram for each signal. Each lamp has an arrow indicating the direction in which traffic is set up. As an indication that a signal has cleared, to correspond with the position of the lever, there is a small green lamp adjacent to the symbol representing each signal on the diagram.

When lining up for a westbound train, the interlocking must, of course, be lined up to clear signal *5*, and level No. 5 in the mechanical interlocking is reversed. However, the signal does not clear until the lever in the C.T.C. machine is thrown. Likewise, when an eastbound Alton train approaches Plaines, the operator at that station operates his lever, controlling signal *A2*. An approach light and annunciator are provided on the C.T.C. diagram so that the leverman at South Joliet is informed of the approach of the train so that he can also operate his C.T.C. lever, after which signal *A2* will clear. Telephone communication between the two offices is available to convey information, if necessary, when arranging for line-ups. In addition to track-occupancy lamps on the diagram and annunciators for all approaches, lamps are provided for all track sections between South Joliet and Plaines so that the leverman knows the location of all trains on the territory. The leverman at South Joliet keeps a train sheet to record the time each train passes South Joliet and Plaines.



Signals Located at West End of Alton Passing Track

As a result of the construction of the new connecting track at Plaines and the installation of the C.T.C. for directing train movements, the Alton has not only reduced operating expenses but has also expedited the movement of its trains. One item of expense eliminated was the payment for the use of the Santa Fe track for westbound Alton freight trains between Joliet and Plaines. Furthermore, under the previous arrangement, it was necessary to bring back to Jackson Street yard in Joliet, by a switch engine, cars in the South Joliet yard that were to be sent westbound. On account of the adverse track layout and grades, as well as delays occasioned by getting through the interlockings, a westbound Alton freight train then usually lost about 30 min. in picking-up and setting-out cars at the Jackson Street yard. With the new arrangement, cars can be set out and picked up at the South Joliet yard in about 10 min. Thus a saving of about 20 min. is made for each westbound Alton freight train. Furthermore, the transfer of cars back and forth between South Joliet and the Jackson Street yard has been eliminated.

The desk levers used for the C.T.C. control, as well as the signals and relays on this installation, are of General Railway Signal Company manufacture. The illuminated track diagram was made by the Alton signal department, using Western Electric switchboard lamp sockets. The installation was planned and constructed by the signal forces of the Alton.

Sales Training Demanded by Modern Times*

Novel promotion work of Erie develops heavy movement of traffic to A Century of Progress

By C. C. Howard,
Passenger Traffic Manager, Erie

I AM wondering if, by and large, some of our railroad solicitation is not quite old-fashioned. Do we try to pattern after the modern, up-to-date methods of some of the large industrial institutions? There is definite value in the adaptation of similarly supervised and carefully organized procedure in connection with the solicitation of passenger traffic. Why cannot such methods be employed in the solicitation of convention and organized party business, school business and college team movements? Why can they not also be employed in soliciting individual business? Large hotels go to great lengths in their solicitation of convention and group business and individual business as well. We can only ask ourselves whether we are in step with the times.

I think that perhaps some of us have been a bit lenient in the past with respect to "checking up" the daily movements and activities of our outside men. But, after all, why should we be? Why should we not require an accurate record of effort, not for the purpose of checking the man and making him resentful but for the purpose of coordinating his efforts with those of others along the line? It may be said that a too close check-up of the time and efforts of a salesman might easily stifle initiative, lessen enthusiasm, work to the detriment of wholehearted interest and effort and possibly lead to resentment. A tight line is necessary, of course, in particular instances, but generally a man who needs constant checking up is not worth his salt.

Check-up on Efforts Essential

One company with which I am familiar employs a very effective method for checking up on all men who sell its services or contact the public. This plan is known by the very descriptive term "sales audit." The home office prepares a comprehensive questionnaire which covers all items and services with which the salesmen should be conversant and which includes 150 leading questions covering subjects with which the men have been made familiar through office bulletins and other literature. Particular emphasis is placed on new sales plans, new ideas and recently inaugurated services. Questions are so phrased that brief answers will indicate the man's general knowledge of that particular subject.

Men from the home office hold meetings at strategically located cities, at which the interviewer goes through the list of questions with each man individually, writing down the answers on forms provided for this purpose. Where the man being interviewed shows a lack of knowledge, he is corrected and given the proper "slant" on the answer and after the form has been filled out, is given an opportunity to ask any questions on subjects which are not clear to him. On the average, these interviews last from one hour to a little more than two hours.

The questionnaires are then taken back to the home office, where they are analyzed by men in charge of sales promotion. The answers not only reveal any weakness in the individual salesman, but they also show up weaknesses in sales supervision.

Another advantage of this plan is the fact that, after it has been in operation for several years and the men learn that they are going to be questioned and that their answers may have some effect on their standing with their superiors, they become most anxious to familiarize themselves with all phases of their business.

On the Erie every progress or situation report of every Erie man goes to every other Erie man so that each knows what the other is doing. It is amazing the number of times they will "click" together. Every one of our men is required to keep a live card index of every organization in his territory and its key man. We have a duplicate in the general office and when we want a classified mailing list, we can get it "pronto."

Erie's Sales Promotional Work Effective

While supervision of men is important, the sales promotional work of the company is probably of even more importance. This was reflected in the Erie's efforts to secure Century of Progress business. We secured at a nominal cost about 2,000 ft. of film of World's Fair scenes taken from the air—last year in its formative state and this year in its finished state. To that we added a few hundred feet of train shots taken along our own line, and picturing a typical family bound for the Fair. They were shown boarding the train at one of our most attractive stations, then enroute, in an attractive coach, Pullman and dining car, and then alighting at Chicago. This year we also used a sound attachment that told the story as it unwound. It was offered for free showing to schools and to business and fraternal groups and was handled by our own men. The demand was so great that we were pressed to fill all the dates requested, although we had two copies of the film. The cost of this sales promotional work was small compared to the results obtained. The reels were shown to over 250 groups this year, comprising nearly 200,000 persons, and the general reaction was most favorable.

To make the work of our solicitors most effective, each was given a manual telling him how he was to go about getting dates to show the picture, just what he was to do with regard to the distribution of literature and return inquiry cards, and just how he was to follow up any advantage gained. This manual contained a list of all of the hotels in Chicago with locations and rates. It also contained a complete list of all fares, individual and party, with limits and conditions. The salesman carried the

* From a paper presented before the annual meeting of the American Association of Passenger Traffic Officers at St. Louis, Mo.

manual with him, and when he made a call on a prospect, he knew what he was talking about.

In addition to this, each solicitor was provided with a folio neatly bound in a flexible cover, which contained photographs of some of our locomotives and of the interiors of our new bucket-type seat coaches, Pullman sleeping and lounge cars and dining cars; a brief description and explanatory diagrams of our air-conditioning system and its effect; a few samples of typical advertising; and a dozen views of the Fair. This sales manual, when laid in front of a prospect, did far more than any amount of talking could do and developed a large amount of business.

In a similar manner, when party business was solicited, our salesmen submitted a complete proposal covering every detail in an attractive way. We pay a great deal of attention to the attractiveness of any proposal because of its psychological effect.

Not Necessary for Salesman to Grow Up in Business

Solicitors should be good salesmen. We might do well to compare the sales ability of manufacturers' salesmen with railroad solicitors. Tradition says that a person must start early in the railroad business and work up to the position of solicitor. Manufacturers' experience has proved that this is not essential in their business and railroading is no more complicated than the selling of a product to a technical field. My belief is that a man who possesses real sales ability and who is a proven success in selling a high type of product, can be made a better solicitor in one year's time than many railroad solicitors who have been in the business all their lives. There is possibly not enough fear of losing one's job and too much of the feeling that "the railroad will take care of us" in the solicitors' minds to make them first-class salesmen, without a definite training process. A railroad is a business organization and not a philanthropic institution.

A selling man must be given all the responsibility he can shoulder, his duties must be clearly defined and he must be made to feel that in his own "bailiwick" he is the mouthpiece of the management. It is only by this attitude of confidence toward him, if he is the right sort of a man, that he can maintain his self-respect and do his best work.

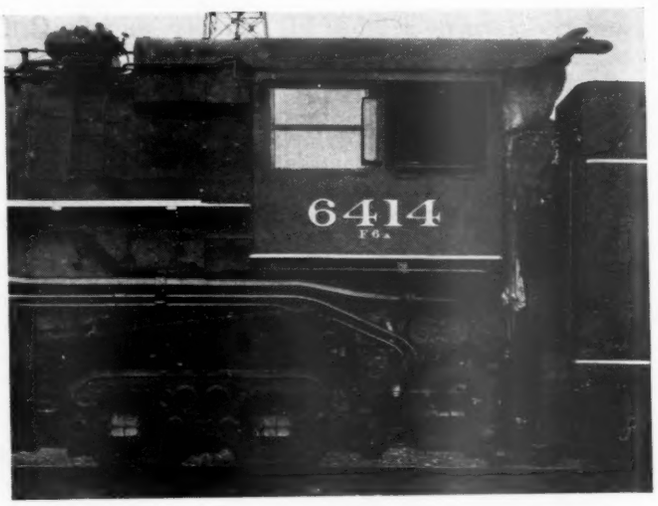
I believe that some of us are prone to minimize the importance and potential value of the ticket seller and the conductor in railroad solicitation, particularly in the creation of good-will. Generally speaking, ticket sellers and conductors are a credit to the profession and a real asset in moulding public opinion of railroad service. My hat is off to them. But there is still a large field for the training of these men, who, after all, form the contact between the vast majority of the traveling public and the railroad, and from whom that vast majority make their estimate of the railroad's worth.

By and large, the prospect goes to the ticket seller to get his information. The ticket seller should be just as much a salesman as the solicitor and should be trained in selling. I am inclined to believe that some of his troubles are due perhaps to a lack of interest on our part and to a lack of organized training. The conductor should be given equal attention, at least in the broad principles of solicitation, for he, like the ticket seller, is of vital value in the creation of good-will.

One of the important features in connection with any program of supervised solicitation should be the organization of a central bureau to co-ordinate the entire solicitation effort, to initiate leads, to develop contacts and personal acquaintanceship and to set up in attractive form the thing we have to sell.

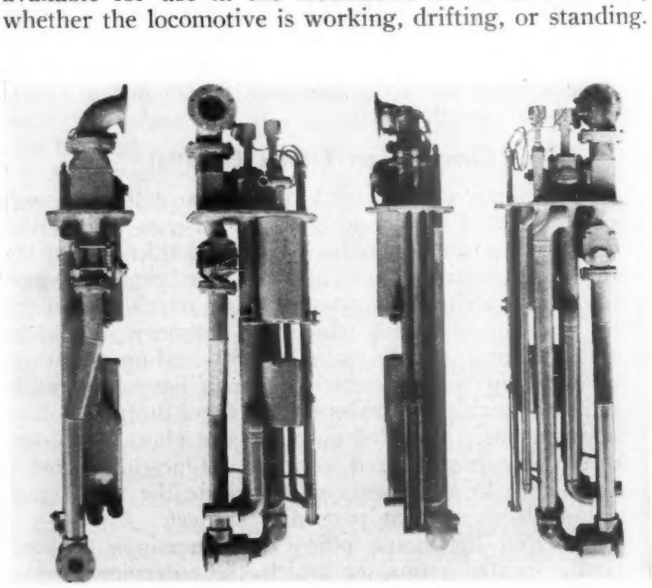
Locomotive Water Conditioner Improved

THE equipment for heating boiler feedwater, made by the Wilson Engineering Corporation, Chicago, and known as the Locomotive Water Conditioner, has recently been improved in the interests of simplicity, low cost of installation and reliability. The Locomotive



Improved Wilson Water Conditioner as Applied to a 4-6-4 Type Locomotive on the Milwaukee

Water Conditioner, as described in an article beginning on page 132 of the *Railway Age* issue of December 20, 1930, provides for storage of water heated by exhaust steam in a compartment of the locomotive tender tank. This water is maintained at a predetermined temperature, available for use in the locomotive boiler at all times, whether the locomotive is working, drifting, or standing.



Four Views of the Composite Tank Unit which Comprises a Compact Design Easily Installed

The apparatus necessary to maintain a predetermined level of water in the hot well, as well as predetermined temperature, is relatively simple in construction. It consists of an exhaust-steam ejector, or syphon, for lifting

(*Continued on page 803*)

Hard-Surfaced Roads, As Well As Tracks, Serve the Lumber Yard

Supplies Big Factor in C. & N. W. Operations

Simplified procedure and mechanical handling of materials employed to obtain smooth action at Chicago shops

GENERAL stores operations of the Chicago & North Western in Chicago offer a glimpse of the progress of supply work on the road and of the important part that supplies play in railway operation, even in dull times. During July, the main store received 179 cars of material and shipped 360 cars of material to other points, exclusive of the scrap handled, which amounted to 8,933 tons. Approximately 60,000 tons of scrap are handled per year.

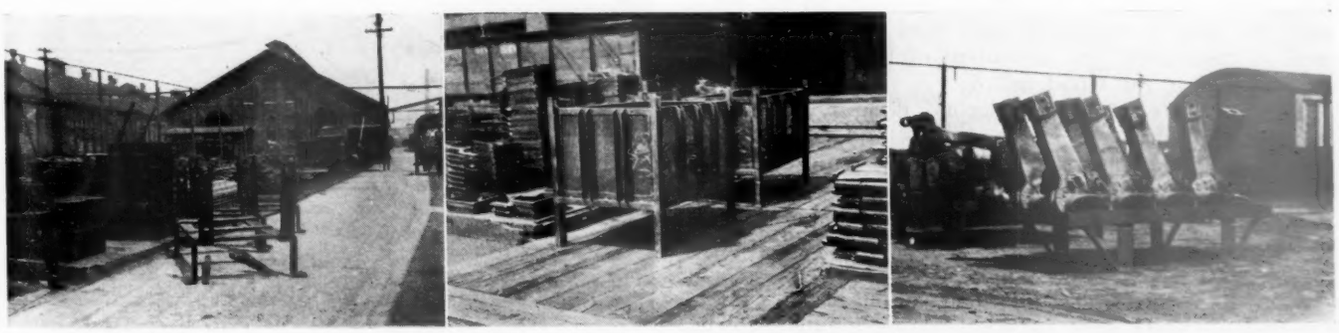
From 1930 to 1933, inclusive, 783 items of stock were discontinued, 4,597 items were altered and 3,138 new items were added to stock. There were 260 additions to the stock of bolts, nuts and rivets, 331 additions to the line of forgings, 314 additions to the line of air-brake equipment, 278 additions to the car-lighting material, 418 additions to electrical stocks, etc., the number of corrections and cancellations made and additions to stock appearing in more detail, as follows:

Changes in Stock, 1930-1933, Incl.

		New Items	Correc-tions	Cancel-lations
1-A	Frogs and switch materials	12	95	7
1-B	Track fastenings	14	43	34
1-C	Track tools—All kinds	18	33	2
2	Telegraph and telephone, interlocking and signal	18	7	2
3	Brick, lime, cement, etc.	3	7	0
4	Lumber	17	28	18
11	Bolts, nuts, etc.	208	641	49
11-A	Rivets, pins, nails, etc.	52	733	33
12	Springs for locomotives and cars	39	27	0
13	Boiler tubes	27	55	1
14	Copper and brass	17	55	0
15	Bar and sheet steel	40	156	5
17	Locomotive forgings	201	872	132
18	Car forgings	333	101	177
19	Castings—Grey iron	126	65	29
19-A	Castings—Steel	160	67	11
20	Castings—Malleable	116	15	22
21	Castings—Brass	12	16	7
22	Air-brake materials	324	130	11
23	Locomotive appliances	126	171	13
24	Passenger-car trimmings	284	70	2
25	Electrical materials—Locomotive	450	164	7
27	Fuel	0	1	1
28	Arch brick, fire clay, acetylene and oxygen	37	10	67
29	Wheels, tires and axles	5	34	1
30	Car lumber	23	48	21
36	Locomotive, train and station supplies	37	127	14
37	Oil-house materials	17	28	17
42	Pipe, iron and steel	0	18	0
43	Pipe fittings	201	370	48
44	Electrical materials for buildings and grounds	10	43	0
45	Hardware and small tools	121	232	35
46	Rubber and leather goods	21	86	9
47	Paints, etc.	23	22	18
47-A	Glass—chemicals	32	27	0
		3,124	4,597	783

Add 348 New Materials in 1933

New items added to stock lists in 1933, consisting of entirely new material or repair parts, or new shapes or compositions of new material, included 11 new track motor-car parts, 15 new items of bar iron and steel, 36



(Left) In the Car Material Yard—(Center) Baskets for Dipping Car Castings—(Right) Portable Containers for Handling Couplers

new freight and passenger-car forgings and 41 new steel castings, together with miscellaneous items, as follows:

Items Added to Stock in 1933

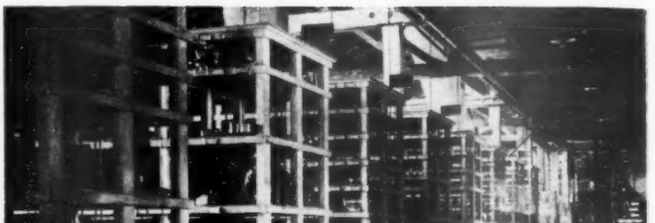
Number	Items	Number	Items
5	Switch fillers	4	Train-control parts
2	Continuous joints	25	Motor-coach engine parts
2	Joint fibres	1	Headlight part
1	Nutlock	1	Oil-electric locomotive part
5	Angle bars	1	Plibrico
11	Track motor-car parts	19	Locomotive and tender axles
1	Wheel for hand cars	9	Unmounted wheels and axles
1	Concrete mile post	30	Mounted wheels and axles
1	Bichromate of potassium	1	Dust guard
7	Flexible staybolts	9	Lumber
3	Flexible staybolt parts	1	Lenses
1	Special wrought washers	1	Candle lamp
10	Coil and elliptic springs	1	Candle-lamp bracket
4	Syphon patches	1	Goggles
1	Copper ferrule	2	Emergency signal boxes
15	Bar iron and steel	3	Electric hand lamp and parts
7	Tank and firebox steel sheets	2	Crater compound
2	Hammered iron billets	3	Grease
36	Freight and pass. car forgings	4	Valves and parts
14	Grey iron castings	14	Pipe fittings
41	Steel castings	1	Electric flood lamp
3	"Z" metal castings	1	Okacord
3	Air-brake parts	1	Key blank
4	Slack adjuster pull-rod parts	1	Machine screw
6	Lubricator parts	1	Packing
3	Universal joints	3	Hose
1	Boiler check spring	1	Hose clamp
2	Barco balls	1	Woodfill
1	Clear-vision window	1	Woodfill mixing liquid
1	Water-glass elbow	2	Paint
2	Worthington pump parts	1	Glass
3	Type-B stoker parts	1	Sand paper
1	Pop valve part		
		348	Total items

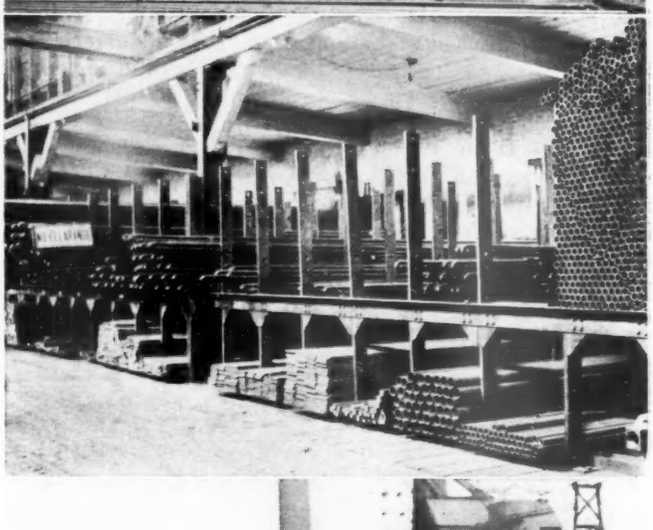
These stores operations, oldest and largest of their kind in Chicago, occupy over 40 acres of a 600-acre tract of land purchased for Chicago shops in 1864. There are two brick storehouses, each 50 ft. wide and 300 ft. long, including extensions built in 1920. One is two stories high and is devoted to storing material, while the other building has a two-story addition which contains the general storekeeper's office. The buildings are surrounded with plank platforms, car-floor high, and between them are four tracks for loading and unloading cars. A track is also built along the opposite side of each building. Between one of these tracks and the coach shop is a concrete road, 18 ft. wide and 1,000 ft. long, giving motor vehicles direct access to the store platform, and also to a new oil-house to the west of the storehouse. On the other side of the storehouses is a material yard, 40 ft. wide and 400 ft. long, for the heavy material for locomotives, including castings, tires, boiler plate, etc., where they can be transferred from the cars on the storehouse track or from the storage and loaded or moved to the shop by a traveling crane. Because of their weight, frogs and switches are also stored beneath the crane. A majority of the racks in the storehouses are built of 4-in. by 4-in. corner posts with ½-in. iron rods, 6 in. apart, forming the sides and bottom; and the material is stored in these racks in metal trays or bins.

Car materials not requiring inside protection, and also lumber, are stored near the car shops and car-repair yards about ⅛ mile distant from the main store, while a separate yard is reserved for track fastenings, track spikes and similar track material not requiring mechanical handling. All lumber is stored on rail rests, and the yard is equipped with hard-surface roads, as well as tracks, for the movement of lumber by tractor or push car to the wood mill.

Headquarters are on the second floor of one of the main stores where 25 clerks, typists and comptometer operators handle extensive office routine required by the operation of the general and division stores. Supplementing the organization and forming the keystone in the control and distribution of the material are stockmen assigned to prescribed sections of stock.

Methods used for obtaining material out of stock invite attention. White slips are used requisitioning material which is charged to all general accounts, yellow slips

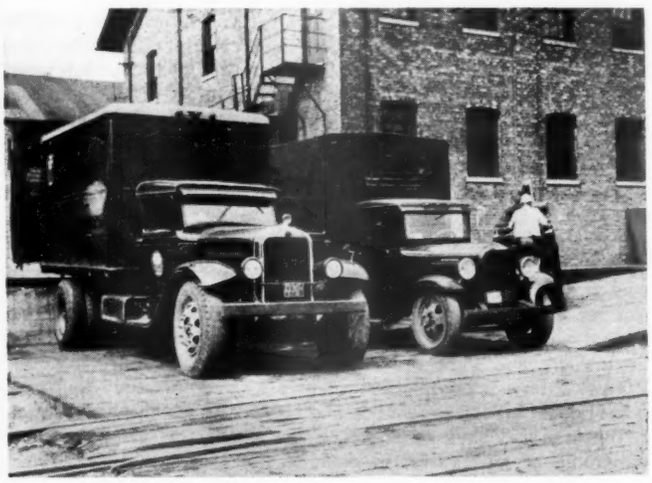




Storehouse Views on the C. & N. W.

for individual passenger cars, pink slips for lot orders, green slips for locomotive running repairs and blue slips for locomotive classified repairs. The different colors simplify the accounting work.

All stores are equipped with loose-leaf stock books in which uniform descriptions of stock are listed in accordance with the uniform arrangement of material, and the practice is followed by each store of reporting designated classes of stock to the general store on prescribed days for the master record and of presenting the corresponding orders for material so that they reach the general store from all points at approximately the same time and while the stock records afford reasonably accurate information of the quantity of each item on



Local Firms Delivering Supplies to Store by Auto Truck

hand. Each order shows the stock-book page and item number and the quantity in stock, due on orders, and the past 30 days' consumption, as a guide to the main office in determining whether to supply all or part of the materials from the Chicago shop's general store, from some other district, division or local store that has an excess stock, or to place orders on the purchasing department. In the latter case, the original is given a general-store number and goes direct to the purchasing office without re-writing unless many revisions are required.

Where the railroad has a contract with the manufacturers, the general store has the name and address of the firm on file and the agreement as to the price and terms of shipment, and prepares a seven-copy order form, using the purchasing department's order form as the original, and the regular stores form, with the required number of blanks, to confirm the order and to supply the necessary office copies. These orders require only the signature of the purchasing agent before being mailed. Over 50 per cent of materials required for stock are purchased in this manner on the Chicago & North Western, which was one of the first to introduce the combined requisition-purchase order of replenishing stock.

Accuracy and expedition in office practice are promoted by using the addressograph for printing the description of items for the stock books and orders. The addressograph is also used in preparing the lists for annual inventory. With the sectional stockkeeping arrangement, the annual inventory, which once took 10 days to complete at the Chicago shops, during which ordering and shipping were practically at a standstill, is now performed in a single day.*

*To be concluded in a later issue.

Locomotive Water Conditioner Improved

(*Continued from page 800*)

the water from the varying level of the main tank to the constant level required in the hot well; a gravity flow valve, to permit of first filling the hot well; a system of exhaust-steam combining nozzles; exhaust-steam and live-steam thermostatically controlled valves to maintain the predetermined temperature under all conditions, and vacuum relief valves.

Formerly, the detailed equipment mentioned was furnished in separate units for assembly in the engine-tank compartment. Recognizing the advantages, including reduced installation cost, in having all parts assembled into a single unit, such a design was perfected, fabricated, and placed in service with results which are said to be satisfactory. It is a part of the equipment of five of the new Northern Pacific locomotives, now being built at the Eddystone plant of the Baldwin Locomotive Works.

From four views of this composite tank unit, shown in a single illustration, it will be noted that only steam and water connections remain to be made after this unit has been installed in the tender tank. The top connection takes the 6-in. exhaust-steam return line to a header, which distributes the steam between the ejector, or syphon, and thermostatically controlled heater nozzles. Between the header and the ejector, a sturdy float valve assembly is interposed. It will be noted that the float arm is counterbalanced and that the float is protectively boxed. The same is true of the secondary float assembly controlling the gravity feed valve

From the header mentioned, steam is by-passed to the heater nozzles through a 4-in. thermostatic control valve. It will be noted that the bulbs for these valves are solidly built into the assembly unit to prevent injury from vibration or displacement.

In normal operation, only the 4-in. thermostatic valve and the ejector float-control valve are called upon to function. The secondary thermostatic control valve governs the admission of live steam for preliminary heating as the locomotive leaves the terminal. Its range has a top limit of 140 deg. F., whereas the main thermostatic valve is set normally at 208 deg. F. This arrangement prevents the use of live steam at all times while the locomotive is working.

The gravity feed valve, with its float control, operates only to permit filling the hot well after the main tank and storage compartments have been completely emptied and the main tank refilled, either in terminals or at water stations.

Referring to the drawing, a typical installation is shown, including the main exhaust-steam return line, with flexible engine-tank connection, the turbine-driven centrifugal hot-water boiler feed pump, and the simple cab piping. The tender tank assembled unit, developed as described by the Wilson Engineering Corporation, is fabricated by the Taylor Forge & Pipe Works, Chicago.

Special details of equipment required in connection with the Locomotive Water Conditioner are as follows: Exhaust steam butterfly valve, Crane Company; stainless steel floats, Arthur Harris & Co.; thermostatic control valves, Fulton Syphon Company; duplex gage, Consolidated Ashcroft Hancock Company; two-stage axial-flow turbine, Pyle-National Company; two-stage, double-suction-impeller centrifugal pump, Allis-Chalmers Manufacturing Company; six-inch joints in engine-tender connection, Barco Manufacturing Company.

Communications . . .

An Optimist Prophecies

CHICAGO, ILL.

TO THE EDITOR:

There is something wrong with this picture; the *Railway Age* should try to do something about it.

At a moment when the railroad world stands on the threshold of a period of reconstruction and reorganization more sweeping than anything it has seen since Harriman's day, railway officers stare aghast at any young man who shows an interest in the business and a desire to get into it. They see the industry as a sinking ship, with most of the crew already floundering in the sea.

"Stay away," they say, "this industry is busted. You'll never get anywhere here. There is no opportunity or future in it. Pick out something that is just starting, like aviation."

Apparently even higher officials have no conception of the tide of change and improvement which is rising under their feet. In the "Zephyr" they see only a pretty plaything, a momentary fad, an advertising stunt. Mr. Turney's proposals for thorough, systematic rail-truck coordination they see only as an expedient for putting truck lines out of business. The possibility that these developments are the shadows of a coming event, an epoch in railroad history that will overturn the established and familiar ways of carrying passengers and freight seems to have gone right over them.

The next 25 years will bring a wholly new type of passenger train and a basically different freight service, a new track structure adapted to much higher speeds; complete elimination of grade crossings; universal pick-up-and-delivery services and a radical reorganization of operating methods in every department —in traffic solicitation, in publicity-technique, in labor relations. Young men of ripening intelligence and vision, looking over the field for a line of work where education and technical training can be put to use, see a vast industry about to be rebuilt from top to bottom with new materials, by new and different methods, probably by different men. In no other industry in America are there such possibilities of action and accomplishment or such promise of potential reward for fresh and vigorous viewpoints and workable ideas. And they tell us to find some industry with a "future"!

If all the railroads could completely equip themselves tomorrow with "Zephyrs" and could install overnight store-door service in every city and town in the country, the surface would be hardly scratched. The present rolling stock isn't adapted to it, the track structure isn't designed or built for such high speeds; miles and miles of right-of-way must be elevated or depressed through congested districts; passenger and freight stations must be relocated and rebuilt along wholly different lines to answer new needs; freight terminals and yard lay-outs in every big city must be re-designed throughout to make motorized terminal operations faster and cheaper.

Costs everywhere must be cut in two. Rates will never again go up; commodity prices and manufacturing costs are down to stay and will go lower; rail rates are still far too high and trucking costs are still higher and the trend will continue downward until they are in line and 50 per cent lower. To cut operating cost 50 per cent will require a new railway plant and this will be built in the next 25 years. Railway men who look back upon the post-war reconstruction of the railroads as a monumental achievement still have something to see.

Financially, the problem will be appalling. Such heavy reconstruction work will call for staggering expenditures. The six billions poured into railway plant since the war will be dwarfed by comparison. Financial reorganizations are inevitable for many tottering units. Consolidation and integration of all roads into two or three powerful and competing systems in each territory, similar to the Canadian set-up, is inevitable. Wholesale abandonment of duplicate lines and hopeless branches, and joint operation of terminal properties are equally inevitable. Change and evolution and reorganization are coming. The only constant factor will be the pressure for lower and lower rates and operating costs.

So, when young men come to you with training and intelligence to offer and insist that they see a great future in the railroad business and that they are going to get in on it in spite of anything you say, they are a sign of the times; they can see farther than you can, and they will be in demand.

ROLAND E. COLLONS.

Issuing Railway "Money" Would Expand Traffic and Purchases

BERLIN, GERMANY.

TO THE EDITOR:

The undersigned has lately published in Volume 9, No. 3 of "The Annals of Collective Economy" (an international review published in four languages, edited by Professor Edgar Milhaud of Geneva, two articles on "railway money" with special reference to the American railways. The essentials of this plan are presented herewith in bare outline. For details and the clarification of questions which the proposal may raise, reference may be had to the original publication.

None of the measures so far proposed for the alleviation of the railways' difficulties appear to be adequate. More comfortable trains are no solution. People are not traveling, not because they do not desire to do so, but because they are short of money. Railway traffic is low, for one reason, because the railways are not making their customary purchases; and they are not making normal purchases because their traffic and earnings are low. Somewhere and somehow this circle must be broken.

The writer's proposal, arrived at after careful study and consideration of all the difficulties and objections which must be met, is that the railways issue negotiable notes ("clearing notes"), acceptable at face value, in payment for transportation service, using these notes to increase their purchases of material and equipment; the notes to be issued in denominations convenient for free circulation.

No one would be legally bound to accept these notes in payment. They would be legal tender only against the railroad which issued them. They would not have legal status as a forced currency. The market for them would be an open one, but the railway would accept them at their nominal value, regardless of market quotations.

Acceptability of the "Money"

The extent of circulation of these notes would depend on their acceptability. The manufacturer who would agree to take them in exchange for his products could profitably utilize some of them at least in the payment of freight bills and in the purchase of tickets for his employees. Some large concerns, the business of which is largely outside the railroad field, might well receive from the railways no more of these notes than they would require to pay for transportation bills.

Insofar as the manufacturer had no use for the certificates, he would dispose of them to other concerns supplying him with raw materials, or he would sell them in the open market. Undoubtedly, since the notes would represent payments to manufacturers for business which they are not now enjoying, they could arrange for increased supplies of raw materials and—provided there is no legal objection—for the employment of additional workmen on the stipulation that they would accept part of their pay in railway notes.

Nevertheless, a considerable quantity of the notes would find their way into the open market, which would probably price them at par or at the outside at a small discount below their nominal value. This discount would not, however, ever be very great, because of the lively demand which would exist for them on the part of persons desiring to effect a saving in their transportation expenses by paying the railways with railway "money." Hence, those who regularly use the railways, particularly large firms, would instruct their bankers to purchase railway notes whenever they fell below par.

Advantages to the Railways

The railways would manifestly profit by such a plan because it would enable them to procure equipment and materials which

they badly need to maintain their properties and increase the efficiency of operation. For this purpose, they would no longer require legal tender, which they need at the present time. They could undertake to pay with a means readily at their disposal, namely, transportation service; and the additional business which would inevitably follow would not increase operating expenses proportionately (no increase in traffic ever does as long as railways are operating at less than capacity).

The railways' sole obligation would be the redemption of the notes at face value in return for their services. They would be in no way bound to redeem them in money, or in any other way. The increase in railway purchases which would follow should improve business activity in the country, and hence greatly stimulate traffic.

In order to strengthen their credit, the railways would endeavor to have many ancillary enterprises—hotels, restaurants, etc.—accept the notes in payment for food or services. For competitive reasons, many other concerns not related to the railways would also agree to accept the notes. Perhaps the railways might make arrangements to re-employ a certain number of furloughed employees on the understanding that they would be willing to accept railway notes in part payment of their wages. If this were done, retail stores at railway terminals would certainly be willing to accept railway "money" from employees, at least in sufficient quantity to pay their normal freight bills. Thus the market for, and acceptability of, the notes would be measurably widened.

No Shortage of Cash Involved

The objection may be raised that this scheme would deplete the railways' cash, so that it would be insufficient to meet payrolls and other obligations which can not be met with railway notes. A little reflection, however, will show that this objection is not valid, because the railway would not re-issue its notes once they were returned to it. In issuing the notes, the railways would use them only for necessary expenditures, which otherwise would have to be made in cash. For instance, with their aid it might purchase signal-lamps. In this way it would come into possession of the signal-lamps without having to pay cash for them. When the certificates found their way back to the railway, being presented in payment for transportation, the liability would have been discharged. The railway would have the signal-lamps, the manufacturer's bill would have been met, and all the railway would be "out" would be the provision of some additional transportation service, of which it has a large surplusage available.

In utilizing the notes, the railway should make no purchases inconsistent with sound financial practice. On the contrary, it should limit their use to the acquisition of indispensible materials such as fuel, lubricants, spare parts, etc. Subsequently, less urgent needs should be similarly satisfied.

How Much "Money" Should Be Issued?

The volume of notes issued should depend, not on the capitalization of the company, but on the volume of traffic, since the notes would represent a claim, not on the property, but only to railway service. It is evident that the volume of the notes should not be greater than can be conveniently used by the public for purchases of transportation, because if the number on the market in proportion to transportation demands were too great, the value of the certificates would necessarily drop. Assuming gross revenues of 3 billion dollars, an issue of one billion would not seem too great.

Naturally, however, the amount of the issue would be governed by the rate at which the "money" comes back to the railway; that is, the issue would be gradual, in strict accordance with the ability of the market to absorb it. In any event, the open market rate should govern every step taken. If this rate should fall below a certain minimum—say 95 per cent—further issues should be stopped, if for no other reason than the difficulty of persuading manufacturers to take additional notes at such a discount. If the issue were halted, the presentation to the railways of outstanding notes would quickly bring the market to par. Should it be deemed advisable, this minimum value at which further issues would be prohibited, might be fixed by law.

The greatest emphasis should be laid on the necessity of destroying returned notes. On no account should they be reissued. The notes should be numbered consecutively and there should be daily reports of the numbers issued and the numbers destroyed.

Face Value and Denomination

Each certificate should plainly state its acceptability in lieu of legal tender for transportation service at regular rates by any cashier of the issuing railway. Should the fear of further lowering of the gold content of the dollar be considered important, the "money" might be rendered even more acceptable by relating it to a certain minimum of service in ton-miles or passenger miles. It may very well be, in view of what has happened to the dollar, that public opinion would rally behind such an unfluctuating medium of payment. If one of the railways had had such a plan in effect prior to the devaluation of the dollar, an extraordinary demand would have arisen for its notes. The denominations of the "money" should be of convenient magnitude, and as small as necessary for ready use.

The applicability of this plan is by no means restricted to short term credits. The companies might issue bonds or notes with interest, payable not in legal tender, but in "money" acceptable only for transportation service.

No Danger of Inflation

No inflation could result by the issuance of such notes and the maintenance of a free market for them. Inflation presupposes a forced currency, and without the latter the former is impossible. As to devaluation of the notes, a free market with the provision that issue would have to stop when the discount fell too low, would be the safeguard. Average prices would not be raised by the issue of the "money," for there would be no fear of a unilateral or intentional multiplication of notes. On the contrary, each note would be a receipt for an actual, but incompleted, business transaction with sound value behind it equivalent to that of the best commercial bills dealt in by banks.

Historical Precedents

A century ago in Germany the Leipsic-Dresden Railway issued 500,000 thalers, one-third of its capital, in notes exchangeable for railway service, which remained in circulation for about forty years and fully attained their object. In 1923 the German Reichbahn issued its own notes, some of which were on a gold standard basis and retained their value during the great inflation. America too has had experience with such issues. In 1835 the Georgia Railroad brought into circulation more than its total capital in railway notes and the Baltimore & Ohio issued notes convertible into municipal loans of Baltimore.

These American experiments, however, were not successful, because the railways concerned were not in operation. Hence, the fundamental presupposition for the issue of such notes, namely the possibility of tendering them in payment for railway service, was not complied with. The notes were not immediately redeemable and depreciation followed as a matter of course. In the case of the Leipsic-Dresden Railway, the Saxon government, which was intimately acquainted with the peculiarities of paper money, granted permission for its issuance only after the railway was in operation.

In America the plan might be tried by one railway only, the company issuing its "money" in payment for current supply requirements and, in addition, floating a long term loan based on the same security. Sound fundamentals should be strictly adhered to and further development should await the results of the initial experiment.

A Sound Basis for Credit

This proposal is based on sound credit principles. Railway credit, as far as property is concerned, is just about exhausted, the reason being that the property is being used to such a small extent with relation to its capacity. This excess capacity, however, has utility and a marketable value. By utilizing this surplus, traffic should be stimulated, which is the surest way to increase credit based on property. The railways need materials which they cannot buy, and manufacturers and their employees would gladly use transportation services for which they can not pay. My proposal, at bottom, means only that the railways and manufacturers go to work for each other to their mutual advantage.

DR. JUR. WALTER ZANDER.

Odds and Ends . . .

The House of David Railroad

The miniature railroad at Benton Harbor, Mich., was built by the House of David religious colony there 20 years ago and is still in service. It has one mile of main line and eight trains of six coaches each. The engines are steam, burn coal and resemble as near as possible normal engines, even to the

Even This Miniature Railroad Is Not Without Its Grade Crossings

air brakes, steam whistle, etc. Four engines are of the 4-4-0 type and four are 4-6-0 type. They were built by the House of David. This railroad has bridges, stations, crossing signs and gates, supply yard and everything that goes with a railroad.—ROBERT WHITE, *section foreman, Grand Trunk Western, Drayton Plains, Mich.*

Obstetrical Locomotive

A D. & R. G. W. freight train struck a cow near Glenwood Springs, Colo., recently. The engine crew found the cow quite dead, but lying beside her was a new-born calf, which, at latest reports, was alive and doing well.

Railway Riflemen

Company D, 108th Engineers, Illinois National Guard, consists entirely of Illinois Central employees. At a recent test shoot at the Camp Logan rifle range, the company distinguished itself by having every member qualify as "marksman" or better.

Both Lawyers

Although their names can hardly be significant, both being respectable members of the legal profession, we cannot help mention that R. S. Outlaw is commerce attorney for the A. T. & S. F.; and T. J. Lawless is general attorney for the C. B. & Q., both with headquarters in Chicago.

Busted Romance

Thomas A. Driscoll, Joliet, Ill., car inspector for the Elgin, Joliet & Eastern, recently received a postcard from a Joliet schoolteacher, mailed from Streator, Ill. Thomas A. Driscoll's wife was curious, not to say jealous, until she looked at the date on the card. It had been mailed in Streator on September 2, 1907, having taken 27 years to travel the 52 miles to Driscoll in Joliet.

Police Find Lost Train

The Pennsylvania "lost" a train recently and had to call on police to find it. The train, a three-car excursion returning from the tri-ennial convention of the Protestant Episcopal Church in Atlantic City, N. J., was reported "on time" when it passed Holmesburg Junction enroute to Bustleton. Then it vanished. When two hours passed and the dispatcher still had no word, he became worried and notified police. Motorcycle officers and cruising radio patrol cars circled through the Bustleton district—and found the train. But there were no passengers. The train crew explained that the Bustleton branch and station had been abandoned several years ago and all railroad telephones removed, making it impossible to report that one of the wheels of the tender had jumped the track. Twenty passengers living in Bustleton had walked to their homes.

Initials in Advertising

R. H. Colombe of Chicago sends in an ad of the Great Indian Peninsula Railway, which consists of clever play on the road's initials—G. I. P.—as follows:

The G. I. P. is a G.reat I.ndian P.ossession and obtains for the country G.reater I.ndustrial P.rosperity.

Its trains G.et I.n P.unctually, and its cars G.ive I.deal P.rotection.

G.reater I.ndustry and P.oliteness will cause the railway to G.ain I.n P.opularity and this will G.radually I.ncrease P.rofits.

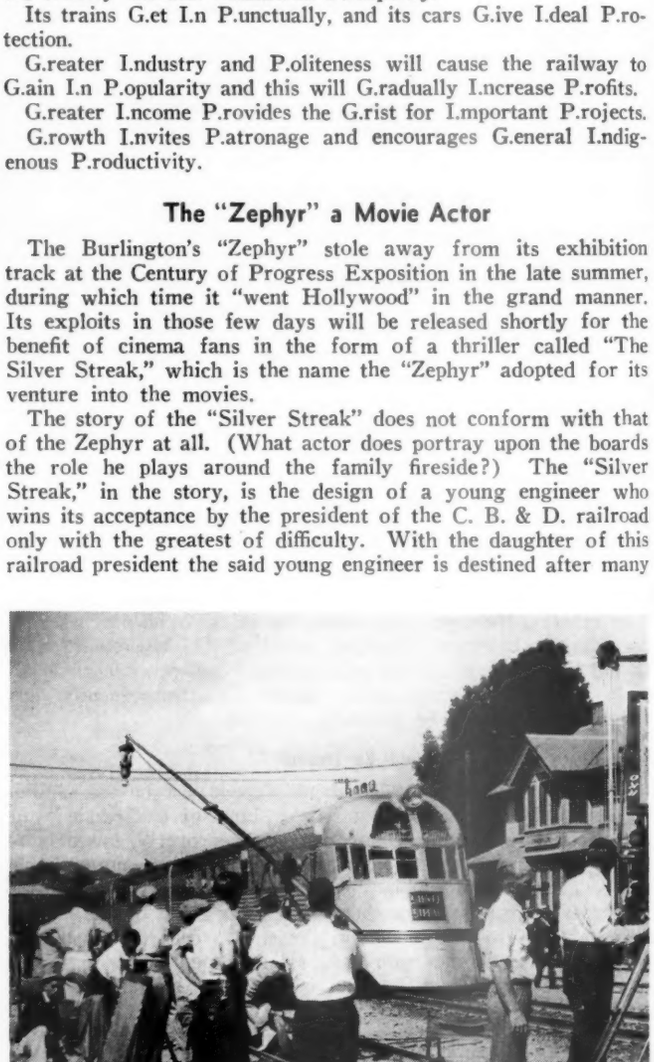
G.reater I.ncome P.rovides the G.rist for I.mportant P.rojects.

G.rowth I.nvites P.atronage and encourages G.eneral I.ndigenous P.roductivity.

The "Zephyr" a Movie Actor

The Burlington's "Zephyr" stole away from its exhibition track at the Century of Progress Exposition in the late summer, during which time it "went Hollywood" in the grand manner. Its exploits in those few days will be released shortly for the benefit of cinema fans in the form of a thriller called "The Silver Streak," which is the name the "Zephyr" adopted for its venture into the movies.

The story of the "Silver Streak" does not conform with that of the Zephyr at all. (What actor does portray upon the boards the role he plays around the family fireside?) The "Silver Streak," in the story, is the design of a young engineer who wins its acceptance by the president of the C. B. & D. railroad only with the greatest of difficulty. With the daughter of this railroad president the said young engineer is destined after many



Hollywood's Latest Star on Location

vicissitudes to go into an amorous clinch in the final fade-out, which should suggest to the seasoned movie-goer the general idea of the plot.

But there are intervening thrills aplenty. An "iron lung," a new invention of medical science, is likewise included in the cast—together with a number of very competent and well-known movie actors who, however, are merely humans. The production comes from the RKO Studios and its producer is Glendon Allvine, who used to be a railroad man himself, as his father still is.

NEWS

Rate Increase Hearings Concluded at Washington

Secretary Wallace and Others From Department of Agriculture Oppose Advance

The hearings in Ex Parte No. 115, the application of the railroads for authority for an increase in freight rates, were concluded at Washington on December 8 and arguments will be heard by the full membership of the commission beginning on January 9. Most of the time on December 7 was taken up by testimony of Secretary Wallace and other officials of the Department of Agriculture in opposition to the advance asked by the railroads. Secretary Wallace said that increases at this time on agricultural and other products would delay recovery without giving railroads the increased revenue they hope for.

Existing freight charges, Secretary Wallace said, have caused farmers to turn from railway to other modes of transportation, and to reduce the volume of agricultural freight. Transportation costs, the Secretary said, constitute a relatively fixed charge in agriculture, which has not declined. This charge is a heavier burden upon agriculture now than it would be in good times. All interests can be best served, the Secretary maintained, by avoiding the creation of a greater disparity between consumers' and producers' prices, and by reducing the disparity that exists.

"Some of the recent drop in railway freight," the Secretary stated, "must be attributed to high freight rates on farm products. Faced with low prices and high distribution costs farmers produce less for the market and more for the home table; they turn from cash grains to feed grains and increase relatively their production of the less bulky commodities. They turn more and more to highway transport and often do their own trucking.

"They also make more use of water transportation. In recent years, though the output of most farm products has declined only moderately, the tonnage of these products carried by the railroads has declined severely. Much of the decline could have been avoided by a more flexible rate policy. For example, freight rates on cotton have been reduced to pre-war levels, and the railroads have regained their former share of the traffic in this commodity."

Under the Emergency Railroad Transportation Act of 1933, Secretary Wallace observed, the Interstate Commerce Commission may adopt a more flexible freight rate policy than in the past. He urged that this should be done, and contended that such action would be quite consistent with the commission's duty to enable the railroads to earn sufficient revenue to provide adequate service. In periods of low prices, the Secretary said, freight charges depress railway traffic more than the same rates would in periods of good prices.

"If the commission finds, after production and traffic have returned to something like their normal volume, that the railroads cannot make up for back maintenance or obtain the confidence of investors," Secretary Wallace said, "it should initiate a proceeding to ascertain whether, in what manner, and to what extent rates should be increased. It is entirely possible, however, that such a proceeding will not be necessary. It may be found that investors will attribute the recent poor earnings of the railroads largely to depression conditions, such as have prevailed in other industries. When prosperity conditions have been restored and when railroad earnings have been restored the commission should anticipate the possibility of a subsequent depression. As a rough guide it should follow the movement of prices and production. Rising prices and production would raise the question whether rates should be increased, and falling prices and production would raise the question whether rates should be decreased.

Secretary Wallace also stressed the important to agriculture of an increase in industrial production, accompanied by a lowering of industrial prices. Between 1929 and 1934, he explained, industrial products dropped 42 per cent in volume but only 14 per cent in price. Processed farm products, on the other hand, showed a decline of only 15 per cent in volume, while in price they declined nearly 40 per cent. Sharp improvement in industrial production, the Secretary said, would help to remove the disparity between farm and factory prices, because farm prices would respond to the increased consumer buying power, or would have a greater purchasing power because of decreased industrial prices.

Statistical and other data supporting the Secretary's argument were furnished to the commission by Louis H. Bean, economic adviser to the Agricultural Adjustment Administration, and Thor Hultgren, a transportation economist in the Bureau of Agricultural Economics. The facts and figures they supplied indicated that agriculture must depend largely, for further recovery, on improvements in the purchasing power of domestic consumers, and on reductions in the costs of distribution. Revival of foreign demand is important, too, the economists said, but they said the indications are that the foreign demand for American farm products may be less favorable in 1935 than it was in 1934.

Danger of Governmental Interference in Industry

S. O. Dunn Points Out How Politics Inevitably Becomes the Dictator of Policies

That the inevitable dictation of government policies by political considerations in a democratic country is the principal danger of increased government interference in industry and business in the United States was emphasized in an address delivered on December 10 before the American Academy of Political and Social Science at Philadelphia, Pa., by Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Company and editor of *Railway Age*.

"Business men are quite naive," said Mr. Dunn, "who believe that there can be any 'partnership' of government, business and labor in which the government will not dominate the partnership, and politics dominate the government. This is a democratic country. As long as it is such its government in every branch will be dominated by politics. Do we want industry as well as government dominated by politics?

"I agree with those who say we need reform as well as recovery. But many of the most needed economic reforms have been and still are needed owing to needed reforms in government. When will our great and growing army of politicians who are so hot with desire to reform business become equally fervid with desire to do their especial duty of reforming our governments in order that we may get a much better performance of their natural and essential functions at a much lower cost?

"Certain functions obviously belong to government. It should prevent crimes of violence and dishonesty. It should assure public safety from accidents. In no other civilized country are these functions so poorly performed as in the United States. It is not because we do not make large expenditures and heavily burden the taxpayers for these purposes. It is principally because of the prevalence in this country of the worst forms of 'politics.' Why assume our politicians will run business well when they run our governments so badly?

"It is easy to show with abundant illustrations that in most instances in which government in this country has interfered in industry or business it has done so because of the political pressure of some group or section seeking to use governmental power for its selfish purposes, and that the result usually has been impairment, not maintenance or restoration, of

(*Continued on page 813*)

New Haven Introduces New Coaches; Exhibits "Progress Special"

The New York, New Haven & Hartford is this week engaged in introducing to the public the first of its 50 modern streamlined passenger cars which are being built with a loan of $2,000,000 from the Public Works Administration. Four of the new cars, together with a diner, a baggage car and one of the 1300 class locomotives, regularly used to haul the New Haven's through passenger trains, comprised a special train which was operated December 8 on a trial run between New Haven, Conn., and Boston, Mass. Aboard this special train at various stages of its run were state and local officials, representatives of the press and officers of the New Haven, the latter including President Howard S. Palmer, who rode from New Haven to New London, Conn.; A. P. Russell, executive vice-president; F. J. Wall, vice-president, traffic; and R. L. Pearson, vice-president and general manager.

The train left New Haven at 11 a. m. and arrived in Boston at 2:11 p. m., thus making the 157-mi. run in 3 hr. 11 min. No attempt at a record was made although on certain stretches of track speeds above 80 m.p.h. were attained.

At the conclusion of the special run, two of the new coaches were sent to Washington, D. C., for exhibition there and the other two became part of a "Progress Special," the New Haven exhibition train which was mentioned briefly in the *Railway Age* of December 8. This "Progress Special" demonstrates the forward strides in railroad passenger equipment development from the acetylene-lighted wooden coaches of the 'Nineties to the streamlined cars of today. Exhibition stops were made, following a full day on display at South station, Boston, at Providence, R. I., New London, New Haven, New York, Bridgeport, Conn., Waterbury, Hartford, and Springfield, Mass. The train left Boston for this tour at 8:30 a. m. on December 11. Designed to acquaint the traveling public with the New Haven's latest contribution to evolution in transportation, the exhibition train included one car of the vintage of about 1897, constructed of wood, with open platform, and gas lights; one of the sturdy but heavy so-called standard steel cars which replaced the wooden cars as a measure of safety; one of the "de luxe" coaches which four years ago represented the latest word in rail transportation; a modern air-conditioned diner; and the two new streamlined, light-weight, air-conditioned coaches "styled" by Walter Dorwin Teague. The entire 50 of these coaches which are being built by the Pullman-Bradley Company, Worcester, Mass., will soon be placed in regular service, without extra fare between Boston and New York, Springfield and New York, Waterbury and Hartford, and Pittsfield and New York.

While the streamlining of the new coaches is not carried so far as will be the case with the New Haven's "Rail-Zeppelin" now being built at Akron, Ohio, the cars represent a distinct departure toward cars of a tubular shape; they are modernistic and include unusual features never before attempted in railroad construction. The interior appearance is striking, with the deep-cushioned seats, floors of cork board, covered with colorful linoleum, and baggage racks of aluminum. The walls are finished in French gray, and the windows, set in aluminum frames, are fitted with two plates of glass with an air pocket between which is dehydrated, in order to prevent steaming or frosting of the panes. The outside appearance is noticeably distinctive because of the tubular appearance, and because their roof-tops are nine inches below those of previous cars. The new coaches nevertheless have been so designed as to permit harmonious combination in a train with cars of the older type. The outside color is hunter's green, which was recently adopted by the New Haven for its passenger equipment, with aluminum lettering, and the windows are framed in pairs with an aluminum border.

Fast Silk Service Proposed

In an effort to win back some of the silk business lost to ships, transcontinental rail carriers have proposed a 10-day transcontinental service between Yokohoma, Japan, and New York with a rate of $3 per 100 lb. Since the market price for silk has declined from $1,000 to $360 per bale, the silk has been diverted from the rails to ships which carry it to New York at a rate of $4 per 100 lb., with a 26-days-in-transit minimum. The present water-and-rail route from Yokohoma to New York requires 15 days, with a rate of $6 per 100 lb., of which $2 goes to the ship and $4 to the rail line. Considerable interest has been aroused by the proposal, since under present conditions, with shipments moving through the Panama Canal, the Pacific Coast does not benefit from the traffic. Trans-Pacific carriers insist that the rail rate must be no more than $2 instead of the $3 proposed. The present rate, which is $4, expires in April, and the old rate of $9 will be effective unless some further provision is made.

Railway Business Association Dinner

The annual dinner of the Railway Business Association was held at the Hotel Commodore, New York City, Thursday evening, December 6, about 1,400 members and guests being in attendance. J. J. Pelley, president of the Association of American Railroads, was the guest of honor.

Unlike previous dinners, formal addresses were eliminated, and special attention was given to the promotion of good fellowship, the dinner courses being so arranged as to allow visiting back and forth between them. The president of the association, H. A. Wheeler, informally welcomed the members and guests and introduced President Pelley, with a brief statement of the work of the Association of American Railroads. The latter responded with an expression of appreciation for the co-operation of the Railway Business Association, and with a short statement of the objectives of the Association of American Railroads.

At a business meeting of the Railway Business Association, held on the same afternoon, officers and members of the board were all re-elected.

New York State's Civic Groups Oppose St. Lawrence Seaway

Representatives of leading civic and other organizations in New York state, meeting at the Chamber of Commerce of the State of New York, 65 Liberty street, New York City, on December 7, voted their opposition by an overwhelming majority to the Great Lakes-St. Lawrence waterway treaty, to the government construction of an hydro-electric plant on the St. Lawrence and to opening the state's credit to the New York Power Authority for the construction of such a plant. Out of 30 organizations directly represented at the meeting, only 2, both located adjacent to the St. Lawrence, voted in favor of the waterway treaty. A third vote in opposition was from the Board of Supervisors at Potsdam, N. Y.

At the conference, which was called by the state chamber, Thomas F. Woodlock, chairman of its committee on internal trade and improvements, explained that one of its chief purposes was to arouse taxpayers and investors to the danger of lending the state's credit to the Power Authority for the establishment of a statewide system of electric power generation on the St. Lawrence in competition with existing private corporations.

Those who favored the waterway project were invited to express their views, but there were only three for it among the 60 persons present. They were H. E. Flack, president of the Northern New York Federation of Chambers of Commerce; William E. Flanders, of the Board of Supervisors, Potsdam, N. Y., and James Frank, of the Ogdensburg Chamber of Commerce. They favored the waterway chiefly because they believed it would help to develop industries in their communities. Half a dozen representatives of organizations in various parts of the state spoke in opposition to the waterway project as a whole, among them U. S. Stockwell, appearing for the Albany Chamber of Commerce, the Albany Property Owners' Association and the Albany Real Estate Board. Samuel B. Bottsford, executive vice-president of the Buffalo Chamber of Commerce; Frank H. Macy, of the Rochester Chamber of Commerce; and L. J. Warren, secretary of the Jamestown Chamber of Commerce, urged united opposition to the waterway treaty and all its ramifications.

On motion of Mr. Bottsford a resolution was adopted with only three dissenting votes that it was the sense of the meeting to oppose first, ratification of the Great Lakes-St. Lawrence waterway treaty; second, government construction of an hydro-electric plant on the St. Lawrence; and third, any attempt to pledge the state's credit to the Power Authority for any such scheme. It was decided to appoint a committee of twelve to confer with various organizations throughout the state which oppose the waterway project and bring them all together for concerted action.

Annual Dinner of Chicago Traffic Club

The Traffic Club of Chicago will hold its annual dinner on February 7.

Optimism Expressed at New York Railroad Club Dinner

The annual dinner of the New York Railroad Club was held at the Hotel Commodore on Thursday evening, December 13, about 2,400 members and guests being in attendance. Charles E. Smith, vice-president in charge of purchases and stores of the New York, New Haven & Hartford, and recently elected president of the New York Railroad Club, acted as toastmaster and master of ceremonies. Except for brief statements on the part of the president, the program was confined largely to entertainment features. George LeBoutillier, vice-president of the Pennsylvania Railroad, who has just completed four years as president of the club, was presented with a suitable token of esteem.

President Smith, in his introductory remarks, insisted that railroad prospects are brighter and better than at any time since the depression started in October, 1929.

"Outstanding among the improved prospects," he said, "is the completion of the organization of the new Association of American Railroads, which will enable the railroads for the first time to present a united front.

"Next is the growing recognition of the necessity for national and state legislation that will insure the railroads a fair deal; that is, only the equality of opportunity in comparison with competing agencies of transportation, for which the need has been apparent for quite some time.

Renaissance of Railroading

"Next, all railroad men and those engaged in the railway supply industry rejoice in the renaissance of railroading signalized by the use of Diesel power and light-weight materials in high-speed streamlined trains; improvement in and purchase of many new light-weight passenger cars, featured by more comfort and better riding qualities; and the rapid enlargement of air-conditioning.

"The response of the public to these improvements is already being realized in improved revenues from passenger business, the downward trend in which was reversed during 1934 to an upward trend in passenger revenues for the first time since the depression started.

"The renaissance of railroading was also signalized by improvements in freight service by the use of Diesel freight locomotives, principally in switching service to date, and improvement in freight car equipment, among which may be mentioned the standard box car; the light-weight hopper car; improved use of cast steel in car underframes, particularly integral underframes for hopper cars and flat cars; and the enlarged use of welding.

Encouraging Signs

"All of this and the purchases encouraged by government loans to railroads have resulted in the placing of orders for more locomotives and passenger cars than for several years, and for 23,719 freight cars during the first 11 months of 1934, which is 9,202 more than in the corresponding period of the three preceding years combined.

"There are also many encouraging signs that railroad men are getting a clearer recognition of the place of the bus and the truck in co-ordination with railroads, in order to provide the complete transportation from door to door so much desired by shippers.

"Given a fair chance and no favor, the railroads will continue to give a good account of themselves. To this end, and to full co-operation with the aims of the national government for recovery, the New York Railroad Club pledges itself during the coming year."

The Dinner Committee was headed by Harlan A. Pratt, of the Ingersoll-Rand Company, as general chairman. Associated with him as vice-chairmen were Charles C. Warne, purchasing agent of the New York Central, and Thomas P. O'Brian, of the O. M. Edwards Company. The chairmen of the other committees included David W. Pye, advisory committee; Arthur N. Dugan, dinner committee; Harry M. Norris, seating committee; Frank Hedley, reception committee; Sam F. Pryor, Jr., entertainment committee; Carl H. Beck, attendance committee, and Roy V. Wright, publicity committee.

Mechanical Conventions

The Mechanical Division of the Association of American Railroads will hold a two-day full membership business meeting, without exhibits, in Chicago, the latter part of next June. A special committee is now considering the desirability of holding conventions of the minor mechanical department associations in May, but no decision has as yet been announced.

History of Locomotive Development

Paul T. Warner, formerly advertising manager of the Baldwin Locomotive Works, will present a paper on The Development of the Anthracite Coal-Burning Locomotive at a meeting of the New York Chapter of the Railway and Locomotive Historical Society, Inc., to be held at 8 p. m. on December 21 at the Engineering Societies building, 29 West Thirty-Ninth street, New York.

New Diesel Switcher Installed by British Road

The London, Midland & Scottish of Great Britain has recently placed in service a 30-ton Diesel switching locomotive equipped with a 200 hp. engine. The new locomotive, the announcement says, is the largest of a series of four purchased by the L. M. & S. from the Hunslet Engine Company, Ltd., of Leeds. It is designed to operate 24-hours a day and is capable of hauling loads up to 700 tons.

Order as to Florida Service Again Postponed

Co-ordinator Eastman has again postponed the effective date of his order of October 25, prohibiting the Louisville & Nashville from discontinuing its interchange of through passenger train equipment with the Chicago & Eastern Illinois at Evansville, Ind., until February 1, 1935. The date has been postponed pending the outcome of litigation as to the validity of the order.

Possible Cure for Financial Ills Seen in Lower Interest Rates

The possibility of solving railway financial difficulties through a reduction of interest rates rather than a wiping out of securities was suggested by John J. Cornwell, general counsel of the Baltimore & Ohio in an address delivered on December 13 before the Rotary Club of Cleveland, Ohio. Mr. Cornwell pointed out that any considerable degree of recovery in general business, especially in the heavy industries, would be reflected so quickly in net earnings to the railroads that their pressing problems would be solved, but he considered also the possibilities of no recovery in business and of the failure of Congress to bring about equitable regulation in the transport field.

If the latter situations develop, Mr. Cornwell suggested that the stronger roads will continue to readjust themselves to current conditions by reducing expenses wherever possible and by modernizing their equipment as speedily as possible; but he added that undoubtedly many of the railroad companies would be obliged to readjust their capital structures through receivership or through the medium of the Bankruptcy Act.

"It would be far better, of course," he continued, "if the fixed charges of such carrier companies could be reduced through the reduction of interest rates on their securities, were this possible, rather than through receivership. From present indications it is reasonable to believe that in the comparatively near future bank credits and the volume of money in this country will have expanded to the point where we may be in for a long period of very low interest rates. And were the interest rates on railroad bonds reduced to 2½ to 3 per cent, instead of 5 to 6 per cent, as at present, it is entirely possible, with future low rates of interest on all securities, that such bonds, with reduced interest rates, might have a market value in the future as high, or higher, than they have today. Of course the difficulty of such readjustment in interest rates is recognizable, but ought not to be insurmountable."

The remainder of Mr. Cornwell's address was a resume of present conditions in the railroad field and the need for regulation of competitive carriers. In connection with the latter he expressed confidence that the prospect for bringing about equitable conditions is better at the moment than at any time in the past. He based this statement on President Roosevelt's campaign declaration at Salt Lake City, Utah; the recommendations of Federal Co-ordinator Joseph B. Eastman and of the Interstate Commerce Commission, and finally upon the growing recognition among business organizations of the need for equitable transport regulation.

Railroad Valuations in Illinois Fixed at $473,777,995

Assessed valuation of all railroads in Illinois for taxing purposes for 1934 has been fixed at $473,777,995 by the State Tax Commission. These final figures represent a reduction of 3.71 per cent from the assessed valuation of 1933.

Supreme Court Asked to Review Pension Law Decision

The government, through J. Crawford Biggs, solicitor general of the United States, on December 7 filed in the Supreme Court of the United States a petition for a writ of certiorari asking the highest court to take from the court of appeals of the District of Columbia for review the case in which Chief Justice Wheat of the supreme court of the District of Columbia found the railroad retirement act unconstitutional. The government had appealed from the decision but the court of appeals has taken no action in the case and the solicitor general took the position that a prompt determination of the constitutionality of the law "is of vital concern to many thousands of employees, who by its terms will be entitled to annuity payments on and after February 1, 1935, and to the families of such employees." Early decision is also a matter of great importance to the present employees, he said, because the carriers are now withholding 2 per cent of the wages of their employees in order to be able to satisfy the requirements of the act should it finally be held constitutional and it is in the public interest that it be promptly determined whether the wage deductions already made should continue to be withheld and whether future wage payments should be subject to like deductions.

The questions presented by the appeal, according to the petition, are:

1. Whether the railroad retirement act is unconstitutional because it applies to all employees of carriers subject to the act, including employees not directly engaged in interstate transportation.

2. Whether the act is unconstitutional because it provides for the payment of retirement annuities computed, in part, by reference to time spent in railroad service prior to the enactment of the statute.

3. Whether the provision of the act which includes among the employees subject thereto those who were in the service of the carriers within one year prior to the enactment of the act, is unconstitutional.

Counsel for the railroads have filed a reply memorandum saying they do not oppose the application of the petitioners for writ of certiorari and that "the issuance of the writ as prayed would result in the speedy and final determination of the important questions involved in this case." However, they point out certain inaccuracies in the petition.

It is said on page 5 of the petition, "The Supreme Court of the District of Columbia concluded that Congress has power to enact a statute 'providing for the compulsory retirement at a certain age of employees of railroads engaged in interstate commerce, together with provisions for the pensioning of employees so retired.'" To this the railroads reply:

"The trial court did not hold that. It held the statute before it unconstitutional for the reasons set out in the memorandum opinion and in its conclusions of law. It simply refused to go further and utter a dictum as to whether Congress might have power to enact some other compulsory retirement and pension statute, saying:

"'I am not prepared to say that the enactment of a statute providing for the compulsory retirement at a certain age of employees of railroads engaged in interstate commerce together with provisions for the pensioning of employees so retired is beyond the power of Congress under the interstate commerce clause of the Constitution.'"

Although not opposing the petition for certiorari, the railroad counsel "assert that in their opinion the holding of the court below, that the Railroad Retirement Act is unconstitutional, was and is correct. And these respondents do not agree that the questions involved herein are so narrow as stated on page 2 of the petition. Broader grounds of unconstitutionality of the statute than those adopted by the trial court were advanced by the bill of complaint, were pressed upon the trial court and will, if the writ issues, be pressed upon this court. It is clear from the authorities that in such situation the broader grounds to sustain the decree below will be properly before this court."

R. F. C. Loans to Railroads

To November 30 the Reconstruction Finance Corporation had authorized loans to railroads amounting to $446,177,080, of which $432,188,001 had been disbursed and $70,682,258 had been repaid.

Railway Employment Reduced in November

The number of employees of Class I railways, excluding switching and terminal companies, as of the middle of the month of November was 979,176, according to the Interstate Commerce Commission's monthly compilation of employment statistics. This is a reduction of 1.84 per cent as compared with November, 1933, and of 3.17 per cent as compared wth October, 1934, and represents 54.8 per cent of the average for the period 1923-1925.

Railroad Fined for Failure to Assess Demurrage

In a recent decision handed down by Federal Judge Wham at East St. Louis, Ill., the St. Louis Southwestern was fined $2,000 for failing to assess demurrage charges totaling $478 on shipments of the W. T. Ferguson Lumber Company, St. Louis, Mo. The lumber company was fined $1,000 on one count, 14 others being dismissed, as were 13 counts against the railroad. Ignorance of a railroad employee caused the error which occurred on June 1, 1934.

Railroad Labor Leaders Plan Legislative Campaign

A legislative program to be pushed at the coming session of Congress was considered by the Railroad Labor Executives' Association at a meeting in Washington last week, including several bills which were introduced in the last session and some others. The program includes proposals for a shorter work-period, along the lines of the six-hour day bill introduced last year, and train-limit and full crew bills. Plans were also made for urging a program of grade-crossing elimination.

Pennsylvania's Storedoor Services Continue to Be Popular

The growth in popularity of the l.c.l. storedoor collection and delivery services inaugurated by the Pennsylvania in December, 1933, is reflected in figures made public by George D. Ogden, assistant vice-president of the Pennsylvania, in an address delivered on December 10 at New York before the National Association of Insecticide and Disinfectant Manufacturers. Mr. Ogden, speaking on "The Railroad of Tomorrow," pointed out how the railroads are keeping abreast of the times and are alive to the present-day needs of their shippers.

In the field of freight operations, Mr. Ogden listed the collection and delivery services and the scheduling of fast freight trains as the two greatest advances of recent years. The former, he pointed out, was inaugurated on a system-wide basis by the Pennsylvania last December in which month the total number of shipments handled in pick-up and delivery services was 49,000; in February, 1934, it had risen to 148,000; in April to nearly 199,000, and in September to over 268,000. At the present time, Mr. Ogden revealed, more than 60,000 shippers of merchandise and other l.c.l. freight are regularly using the service. "It is the belief of the Pennsylvania management," he continued, "that the logic of events, and the normal and natural progress of railroad transportation, will inevitably make storedoor collection and delivery a universal and regular feature of railroad service."

One of the interesting results of the storedoor service, Mr. Ogden further revealed, has been the improvement in efficiency of railroad operation as reflected in the increase in the average load per box car. He pointed out, for example, that last December 221,000 tons of l.c.l. were handled between points on the Pennsylvania and in rendering this service more than 67,000 box cars were used, the average load per car being 6600 lb. In June, 1934, more than 323,000 tons were carried in 64,000 cars, the average load being 10,100 lb. or a gain of 53 per cent. Thus an increase of 46 per cent in the total tonnage was transported in 5 per cent fewer cars. Mr. Ogden added, however, that it would be unwarranted to say that this improvement was due entirely to storedoor collection and delivery, but he nevertheless held that the operation of that service was an important factor, since "it naturally tends to aid in the concentration of shipments and so makes it easier to bring up the average load per freight car."

Speaking in general of the railroad future, Mr. Ogden said in part:

"We look to faster trains, perhaps for certain purposes lighter equipment but without sacrifice of comfort or safety, increased use of electrification, the further development of special types of freight equipment and probably increased adaptability of freight containers for specialized forms of service.

"We believe that the railroads should, and will freely enter into any and all the different forms of transport, including the highways, the waterways, coastal, intercoastal and Great Lakes shipping, and the

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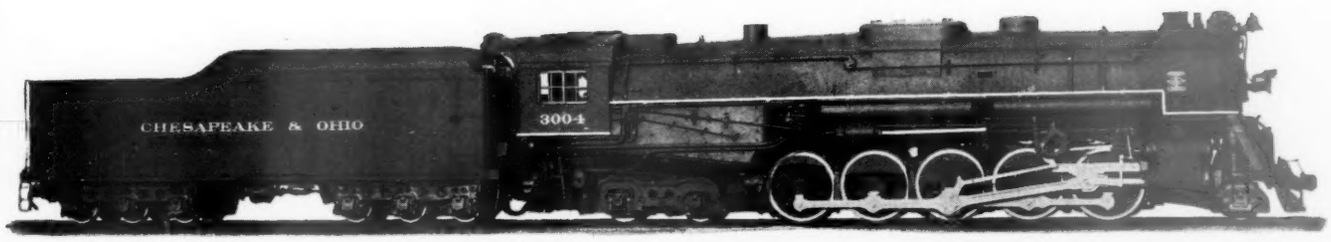
SUPER-POWER

To Increase Net Earnings



Faster service is the keynote of modern freight movement.

Super-Power Locomotives are available that provide high hauling capacity at passenger train speeds.

Such power is economical to operate and economical to maintain.

It offers the lowest cost per 1,000 ton-miles of any means of transportation.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS INCORPORATED, LIMA, OHIO

airways. Each of these agencies has its place and purpose. When grouped into a single enterprise, each will naturally be used where it serves best and most efficiently; and this it will have the opportunity to do in 'the railroad of tomorrow.'

"We do not ask, seek or want any transportation monopoly for the railroads. We ask only that they shall be given the right freely to operate all forms of transportation service on exactly the same terms as are accorded to citizens and taxpayers in general, and that all legal difficulties now existing in the way of doing so shall be removed. These developments are so logical and fair that we believe they must appeal to all thinking citizens and are certain to come."

Department of Commerce to Issue Report on Foreign Transportation

"Railway and Highway Transportation Abroad" will be issued some time in the near future by the Transportation Division of the Bureau of Foreign and Domestic Commerce, Department of Commerce. It will be issued as Trade Promotion Series 155 and will contain 426 pages, according to Thomas E. Lyons, chief, Transportation Division.

R. & L. Historical Society

The Railway and Locomotive Historical Society (Boston) has issued Bulletin No. 35, a pamphlet of 88 pages, containing the usual interesting miscellany. The principal article is a history, well illustrated, of the American (4-4-0) type of locomotive, by Paul T. Warner. The American type was patented on February 5, 1836, by Henry R. Campbell, chief engineer of the Philadelphia, Germantown & Norristown, which road adopted steam power in 1832.

There is a further chapter on locomotives of the Boston & Maine and a 10-page article on the San Francisco & San Jose, the first line to enter San Francisco. This road, which was opened for 35 miles in 1836, was soon absorbed by the Southern Pacific.

Rates On Citrus Fruits From Florida To Be Reduced

A reduction in railroad freight rates on citrus fruits from Florida to Atlantic seaboard points so that they will be 7½ cents a hundred pounds higher than the coastwise steamship rates has been agreed upon as a result of conferences held by representatives of the Interstate Commerce Commission, Co-ordinator Eastman, the railroads and the steamship lines. The rates by rail had been 18 cents above the water rates but the boats had been handling so large a part of the traffic that the railroads had asked permission of the Interstate Commerce Commission to establish rates representing a 5-cent differential on short notice. The compromise is to remain in effect for an experimental period.

Handhold Wrongly Used as Foot Brace

G. D. Swinson, a freight brakeman in interstate commerce, sued the Chicago, St. Paul, M. & O. under the Safety Appliance Act for injuries received when a handhold on which he had rested his foot, when releasing a brake, gave way, the wood of the board where the bolt pulled through being defective. The Eighth Circuit Court of Appeals, affirming the Federal District Court for Minnesota, held a verdict for defendant properly directed, the defendant owing plaintiff no duty, under the Act, "to furnish either a secure handhold or any handhold at all to be used as a foot brace." It was not required to anticipate that any such use would be made of the appliance, and by using it in a manner not intended or contemplated, the brakeman placed himself in a class for whose benefit the law was not enacted.— 72F (2d) 649.

Pullman Car Tours to Mexico

The American Express Company, in cooperation with the Southwestern Trunk Lines, the Wabash, the Chicago, Rock Island & Pacific, the Southern Pacific, the Missouri Pacific and the National Railways of Mexico, will operate seven private Pullman car tours from Chicago to Mexico at two-week intervals from December 21 to March 15. These tours will be carried from Chicago into Mexico in American cars. At Mexico City, seven days will be devoted to the capital and the surrounding country, preparatory to a visit to Cuernavaca and Taxco. From Guadalupe a motor journey will be made to San Juan Teotihuacan. A day-light journey through the central plateaux of the Sierra Madres ranges and along the southern banks of the Rio Grande to El Paso, Tex., will also be included.

Business Conference for Recovery

A joint business conference for recovery, sponsored by the Chamber of Commerce of the United States and the National Association of Manufacturers, will be held at White Sulphur Springs, W. Va., beginning on December 17. The purpose of the conference is to formulate a program for accelerating business recovery, and invitations to attend have been sent to 100 leaders in the fields of commerce, industry, finance and agriculture.

Two committees, one representing each of the sponsoring organizations, have been appointed to organize the sessions. George H. Houston, president of the Baldwin Locomotive Works and chairman of the Durable Goods Industry's Committee, is a member of the group representing the National Association of Manufacturers, which is headed by Robert L. Lund of St. Louis, chairman of the N. A. M. and executive vice-president of the Lambert Pharmacal Company. Silas H. Strawn of Winston, Strawn & Shaw of Chicago is chairman of the Chamber of Commerce committee.

Pennsylvania Medals for Bravery

M. W. Clement, vice-president of the Pennsylvania, at the directors' meeting of the company, on November 28, presented the heroic service medal of the company to William H. Vonada, crossing watchman at Sunbury, and at the same time a similar medal was presented to the widow of Harry H. Hawk, recently deceased, who attempted to prevent the wrecking of a coal train at Darkwater, Pa., in September, 1929. Fireman Hawk, left his engine, climbed back over the cars and applied a number of hand brakes, but without preventing the derailment of the train, which had become uncontrollable on a steep descending grade.

Crossing Watchman Vonada was on duty in Sunbury, on September 26, 1933, when he saved the life of an elderly citizen who crossed the track without noticing the approach of a locomotive.

Depreciation Rules for Express Companies Proposed

The Interstate Commerce Commission has announced a hearing to be held in Washington on January 10, 1935, before Examiner Bunten, on a proposal of the depreciation section of its Bureau of Accounts that the commission enter and order concerning depreciation charges of express companies substantially the same as that entered July 28, 1931, with respect to depreciation charges of steam railroad companies, modified only to the extent necessary to make it applicable to express companies. It is also proposed that the classes of property of express companies for which depreciation charges may properly be included under operating expenses are the classes of property, other than land, includable in the primary accounts under Real Property and Equipment as shown in the Uniform Classification of Accounts For Express Companies.

German Railroads Carry 500,000 Persons to Nuremberg Convention

The transportation to and from Nuremberg, Germany, of more than 500,000 participants of the party convention this year represented the greatest transportation task since the World War, according to the German Railroads Information Office, New York. While the transportation requirements of last year's Nuremberg party convention called for 307 special trains, it was necessary to operate 524 of them this time. The enormous growth of the annual convention traffic has required the reconstruction of the Stadium station Nuremberg-Dutzendteich, at a cost of $1,000,000, while many changes had to be effected at the principal railroad station at Nuremberg and in the different rerouting stations as well as those in neighboring cities. In addition, signaling and dispatching facilities had to be expanded to cope with the requirements of the traffic. Because the storage of empty trains taxed the capacity of all trackage in the neighborhood of Nuremberg, trains had to be parked anywhere within a radius of 125 miles of the city, the average empty train movement thus required amounting to approximately 95 miles both ways. Special trains came from an average distance of 250 miles.

First of N. & W. New Passenger Cars Delivered

The first of the Norfolk & Western's 18 new air-conditioned passenger cars being built at the Wilmington (Del.) plant of the Bethlehem Steel Company, was delivered on December 11 amidst ceremonies appropriate to the Christmas season. The car was decorated like a Christmas package, while the engineer was dressed as Santa Claus when his locomotive emerged

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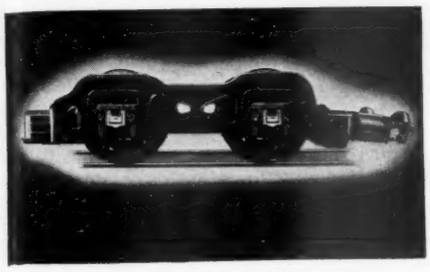
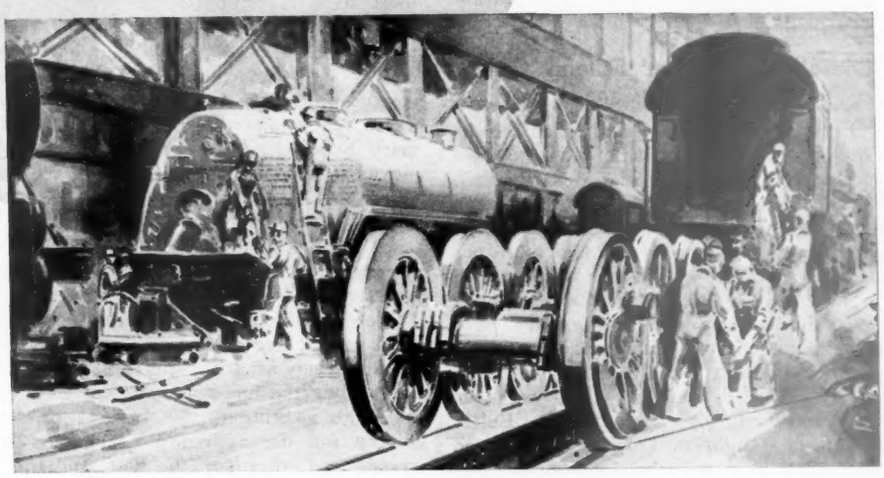


THE BOOSTER *Results in*

LOWER LOCOMOTIVE FIRST COST
LOWER LOCOMOTIVE MAINTENANCE COST



On a Booster equipped locomotive, the Booster supplies the increased starting effort, and desired acceleration when starting the train, as well as the additional power to carry the train over the ruling grades.

If all the power required at low speeds were produced in the two main cylinders larger cylinders would be required.

Large cylinders mean not only increased weight but result in a correspondingly increased piston thrust and a correspondingly increased cost of maintenance for rods, bushings, boxes and all other parts where the thrust has an effect. In addition, in many cases it would mean an extra pair of drivers.

Where new power is considered the Booster offers an opportunity of designing a lighter, lower cost engine, of the desired ton-mile-per-hour capacity, but an engine that will be more economical both to operate and to maintain.

Franklin repair parts use jigs and fixtures that insure interchangeability, long life and dependability of service. Genuine Franklin parts are a guarantee of maximum trouble free service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

from the Bethlehem plant with the car for presentation to Col. W. S. Battle, vice-president of the Norfolk & Western. Quincy Bent, vice-president of the Bethlehem Steel Company, represented the builders at the ceremonies.

The new car is described as "the last word" in passenger coach design, all of its fittings and decorations being done in the latest manner. It is air-conditioned and has individual reclining seats with deep, double-deck cushions; it has a men's smoking room and a women's salon with lounges. In accepting the car on behalf of the Norfolk & Western, Col. Battle declared that it "is a far cry from the passenger coach of my boyhood days, heated by a pot-bellied stove in one end and wherein travelers froze in winter and smothered in heat, dirt and dust in the summer, to this last word in passenger coach construction, built for strength and safety—scientifically heated, ventilated and air-conditioned."

Consolidation Under Federal Control Urged for Canada

Fresh impetus has been given to the debate in Canadian political and business circles over plans with regard to the railways. President Beatty of the Canadian Pacific for the past three years has been urging amalgamation of the two roads under private control. This has been opposed by Liberals and Conservatives alike. Public ownership advocates in the country have strongly advocated amalgamation under government control and a strong statement on this line was made this week at Chatham, Ont., by Hon. W. D. Euler, prominent Ontario Liberal, a former cabinet minister and slated to be minister of railways if the Liberals win the next election. His speech at Chatham is important because when the next liberal government is formed here it is practically certain he will be in charge of the railways portfolio and it is also certain that by that time there will be a sufficiently strong demand in Canada for a real and final solution of the problem to encourage him to try his public ownership amalgamation plan. Mr. Beatty, the day following this speech, made a short statement in Montreal commending Mr. Euler for, at least, having put this debate on the map.

Railway Development Meeting

The twenty-sixth semi-annual meeting of the American Railway Development Association was held at Chicago on December 6 and 7, the development of railroad traffic through increased agricultural and industrial activity being discussed. C. A. Radford, publicity manager of the Cleveland, Cincinnati, Chicago & St. Louis, spoke on "The Present Transportation Problem," citing various ways in which the public can be informed of railroad matters; J. L. McCloud, in charge of the chemical laboratory of the engineering laboratories of the Ford Motor Company, spoke on "Application of Products from the Farm in the Ford Motor Company"; A. J. Dexter, Northern Pacific, spoke on "Beef Cattle and Sheep Situation in Recent Drought Areas", and John T. Stinson, Missouri Pacific, spoke on "Carload Rates for Live Stock." A. G. Philips, of the Allied Mills, Inc., spoke on "Utilization of Soy Beans"; and H. W. Bellrose, president of the World Fibre Corporation, outlined the possibilities of traffic resulting from the growing of hemp in the United States.

At an informal discussion at the Industrial Section meeting, side-track construction resulting from industrial loans from the Reconstruction Finance Corporation and the Federal Reserve Board, rentals under lease of railroad property, decentralization of industry, and trucking were given consideration.

Urges R. F. C. Buy Equipment Trusts

Ernest L. Nye of Freeman & Co., New York, is sponsor of a suggestion that the Reconstruction Finance Corporation bolster up the market for equipment trust certificates by purchasing maturing certificates from those railroads which are unable to meet such maturities.

"It is understood," said Mr. Nye, "that the administration is still pursuing the policy of endeavoring to get railroads to continue to purchase new equipment under 4 per cent equipment trusts with the primary purpose of giving relief to unemployment. From the standpoint of the investor, however, disturbing reports are in circulation, which, if they turn out to be facts, seem destined to shake the structure of equipment-trust financing to its very foundation.

"Before all conflicting interests become involved in long-drawn-out legal contentions it seems as if a conference should be held among the financial representatives of the large institutions, the trustees or receivers for the railroads which are in trouble, and officials of the RFC and Public Works Administration to map some definite plan that would enable the railroads to protect a form of security the use of which may in the future save them millions of dollars in financing costs.

"One method would be through the purchase of maturing car trusts by the RFC and the keeping of them alive as a second lien on the equipment. If the railroads come back to normal business such purchases would in all probability prove sound investments. The next Congress might, if necessary, amend the powers of the RFC to make this action possible."

R. F. C. Chairman Not Considering Guarantee of Railroad Bonds

Commenting on published reports that the government was considering some plan for guaranteeing railroad bonds, Chairman Jones of the Reconstruction Finance Corporation said at his press conference on Monday that he did not believe "we will ever get to the point of guaranteeing railroad securities." He said he had never given any consideration to such a plan and that there was no reason to think he ever would; that he assumed that whatever financial assistance the railroads may need would be given in the usual way through loans.

In an address before the Bond Club of New York City, on December 12, Mr. Jones also said:

"We have been helpful to railroads, to which we have loaned approximately $460,000,000. I am aware that many of you are wondering what our attitude will be as to further assistance to railroads, but all I can say is that if Congress extends our lending authority, we will continue to be as helpful to the railroads as the situations with respect to the roads needing assistance justify. We would like to help them reduce their fixed charges and to get their money at lower interest rates.

"It seems to me that such roads as are in need of reorganization should not put off too long taking the necessary steps. In fairness, reorganizations, as far as practicable, should make some contingent provision for such junior securities as are not obviously beyond hope.

"Of one thing I am convinced, that the debt of the roads that are not earning their charges is too big for the government to shoulder. Indeed there is no more reason why the government should pay debts of the roads than of other privately-owned industries that cannot make ends meet under present conditions. As long as they have adequate security to offer, the railroads should have the same treatment as other borrowers to whom the corporation is authorized to lend."

Recovery in the Durable Goods Industries

George H. Houston, president of the Baldwin Locomotive Works, and chairman of the Durable Goods Industries Committee, addressed the Economic Session at the annual meeting of the American Society of Mechanical Engineers on "Fundamentals for Recovery in the Durable Goods Industries"; the meeting was held at Stevens Institute of Technology, at Hoboken, N. J., Thursday afternoon, December 6.

"Over one-half of existing unemployment," said Mr. Houston, "lies in the field of durable goods, principally in construction. It is coming to be more and more recognized that recovery must be created through reemployment in these fields which in turn will also create further employment in the service industries and in the consumption goods industries. The program of the Federal Housing Administration in modernizing existing housing and mercantile facilities and in establishing a sound mortgage system for financing housing is a most important step in the right direction. Revival of private enterprise in durable goods is possible, however, only by correction of the existing disparities and by encouragement to private business. . . .

In closing his address, Mr. Houston said: "Recovery must come by re-employment where unemployment now exists—that is, in the field of durable goods. The renewal of these processes of national rebuilding and development is for the best interest of all,—the worker, the consumer and the investor. Never in the history of our country has there been such a suspension of these processes for so long a period nor has there been so great an accumulaton of obsolescence in the facilities of the nation needed for living, for industry and for commerce. . . . This revival will come—in fact, is almost upon us now. All we need is a clearing away of the remaining obstacles, most of which have been created in fact, or in the minds of business men, by enthusiastic theorists, in the interest of social advancement, without realizing that so-

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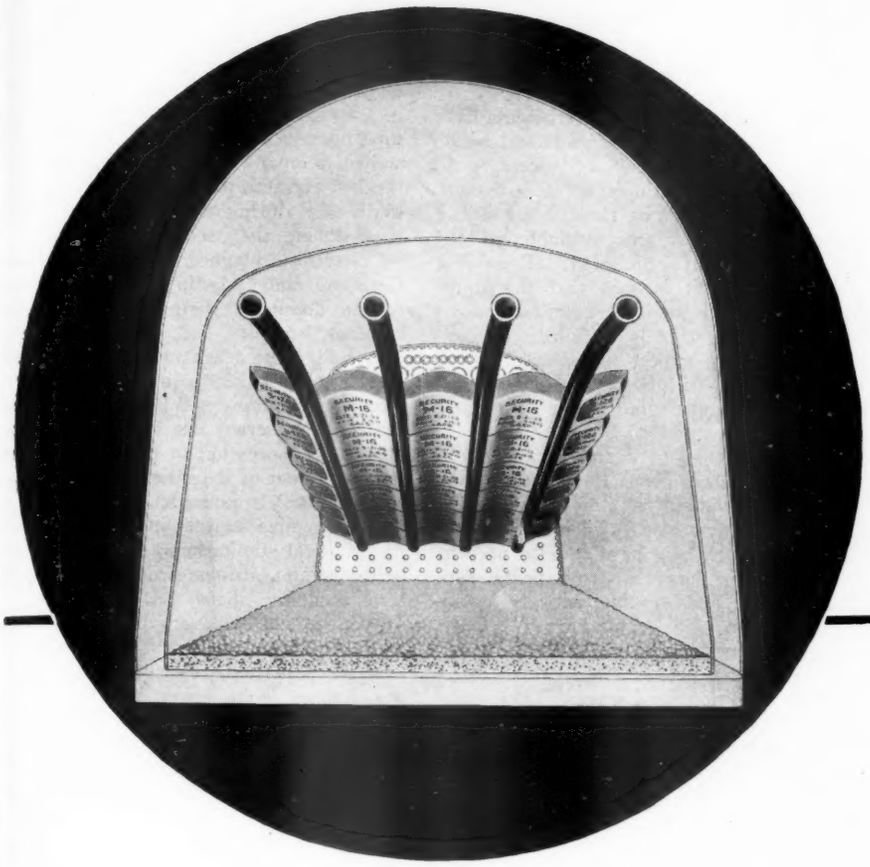

RIGID ECONOMY
requires a full arch

To shorten the brick arch by a single course is not economy. • It adversely affects the steaming of the locomotive and reduces its capacity at speed. • Maintaining full length Security Brick Arches is one of the most rigid economy measures you can take.

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Refractory Specialists

NRA MEMBER U.S. WE DO OUR PART

AMERICAN ARCH CO.
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Locomotive Combustion Specialists » » »

ciety can advance no faster than all its parts and that reform, no matter how desirable, cannot make permanent progress over a prostrate business structure. The correction and prevention of economic instability will not be accomplished by highly centralized planning of national scope, but rather by a better and more sympathetic understanding by all, of the characteristics of our economic life, the maladjustments to which it is subject, and their cause and correction.

"Let us all then give our support to those forces, now making their appearance, which are moving in the direction of this revival. Let us, at the same time seek to understand the social as well as the industrial problems of our people and to assist in their solution, without compromise, however, of those principles and practices of individualism and sound private enterprise which have constituted the rugged foundation upon which America has been built and which today holds out the only real hope for her future."

Danger of Governmental Interference in Industry

(*Continued from page 807*)

that economic balance between different industries and classes required to cause the increase of production and the equity in the distribution of income essential to progress and prosperity.

"Often when government interferes in business it is by the use of the taxpayers' money to subsidize some industry or class in competition with some other industry or class. Its construction of inland waterways has been usually due to the political pressure of shippers in favored territories and communities who have sought what is called 'cheaper' transportation at the cost of the taxpayers. In large measure its expenditures upon highways similarly subsidize carriers upon them in competition with the railways. The federal government is now embarking upon an extensive program of using the money of the taxpayers of the United States to finance local municipally-owned plants in competition with privately-owned public utilities.

"The federal and state governments have power to fix rates for railroads and public utilities no higher than are necessary to produce a fair return upon a fair valuation. Why use the power of taxation to reduce rates, if reductions are justifiable, instead of the power of regulation? Regarding public utilities, it is said that the states have not used their regulating power enough. If so, this is a failure of government. Why expect to remedy failure of one branch of government by use of the taxing and managing power of another branch of government?

"There was always competition between railways, but, because of their nature, they required regulation to stop and prevent unfair discriminations. Their experience shows, however, how hard it is to prevent government in business from being carried too far and causing entirely unexpected effects. To regulation to prevent unfair discriminations was added regulation to restrict profits and regulation of working conditions and wages. Then upon waterways and highways built with taxes there appeared increased or new competition not subject to any such regulation. If the railways had been free they would have promptly reduced their long haul rates to meet water competition and their short haul rates to meet truck competition. They could not do either without prompt government permission which they could not get and have not got yet.

"Personally I favor abolition of all regulation of transportation excepting regulation of all carriers to prevent unfair discriminations and promote public safety. But I do not believe it is practicable because it would be 'bad politics' for public men to favor it.

"Under government encouragement or coercion to reduce competition, industry and labor are likely to join in raising wages, costs and prices too much. This is what business and labor have done under NRA with the result that neither has got the benefits it expected. They reduced the demand for the products of industry, and in spite of huge government expenditures, total production and employment have shown a downward trend during most of the last eighteen months and have been actually less during the second half of 1934 than during the second half of 1933.

"They have planned economies in Russia, Germany and Italy in which government is the dominant partner and they have eliminated politics, because a planned economy and politics are utterly incompatible. But in eliminating politics they have destroyed democracy. Why? Because politics and democracy are absolutely inseparable and suppression of one is tantamount to destruction of the other. But if we are to preserve democratic government we must recognize and act in accordance with its political limitations in dealing with economic and business problems, or we will have economic chaos.

"We do not so much need increase of the power of government to reduce economic exploitation, as reduction of the political abuse of its power in behalf of special interests or classes, as illustrated by the way it unfairly discriminates in favor of competitors of the railways.

"Under the governmental and economic systems which heretofore have prevailed in this country, more wealth and income per capita have been created and distributed than under any other systems. All our serious economic troubles have been preceded and accompanied by government and business policies in plain violation of the principles upon which our government and our system of production and distribution are based. Is it not, then, much more probable that our economic troubles have been caused by these violations of our heretofore accepted principles of government and economics than by our failure to adopt widely different principles and widely different policies based upon them?"

Price Fixing For Railroads

Among those opposing, before the Interstate Commerce Commission, the desire of the railroads to advance certain freight rates are some of the most enthusiastic supporters of the Administration's efforts to raise the general price level. Secretary Wallace, for example, is Lord High Executioner of the processing tax, which has helped the farmers to a 1934 income a billion dollars better than that of 1933. But he tells the I. C. C. that the freight rate increases would delay recovery.

Coal mine operators are likewise apprehensive that an advance of a few cents a ton in coal freight rates would reduce consumption. Their own increases in selling prices, which have amounted in some instances to 70 per cent in less than a year, occasion them no concern over the consumer's purchasing power, not even where their principal customers are railroads of doubtful solvency. A receiver's money, of course, is as good as any other kind.

Price raising and fixing is the delicate matter of whose ox is gored. If you can get it, a higher price helps to restore the blessed price relationships of the good old days, makes higher wages possible and contributes generally to the more abundant life. If you have to pay it, a higher price checks recovery by curtailing purchasing power, diminishes real wages and is generally uneconomic.

When it comes to regulating the railroads the price question is simple enough. A railroad always was a gold mine and today is something better, for it can keep everything it earns over operating expenses, taxes and interest on debt. When, under political pressure, the railroads this year restored to their employes the 10 per cent wage reduction of 1932, they were loyally contributing their share, or part of their share, to a planned recovery. When they began paying $1.60 or $1.80 a ton for coal which sold a year ago around $1, they were merely keeping up the good work. But when they asked for a possible $170,000,000 in higher rates as partial offset to an increase of $350,000,000 in annual operating expenses, they became an island of selfishness in an ocean of altruism.

Their preference for solvency, where it can be preserved by rate increases amounting to a fraction of the general NRA price rise, can only be regarded as a depraved taste.

From the Wall Street Journal

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NO ATTENTION From Shopping To Shopping

If properly maintained, superheater units should require no more attention from shopping to shopping than the usual inspection at engine-houses. To assure this, superheater units should be given the same careful attention when engines are in the backshop as any other vital part of a locomotive. The dependable life of superheater units, for instance, is approximately the same as that of the firebox. Consequently superheater units should be renewed as frequently as the firebox. And the most satisfactory method is to have them REmanufactured.

The reason for this is clearly evident. By the process of REmanufacturing, unserviceable units are disassembled at our plant, and worn and defective material is scrapped. Then from the remaining serviceable tubing and additional new tubing, the units are REmanufactured . . . they are, in effect, practically equal to new units.

This complete rebuilding of superheater units by exacting precision methods saves superheater upkeep expense and assures you of freedom from superheater failures between shopping periods.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

NRA MEMBER U.S. WE DO OUR PART

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Peoples Gas Building
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Canada: The Superheater Company, Limited, Montreal

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheated Steam Pyrometers - American Throttles

Equipment and Supplies

FREIGHT CARS

THE CHESAPEAKE & OHIO contemplates buying 10 self-clearing, light-weight steel hopper cars of 50 tons' capacity.

THE SOROCABANA RAILWAY contemplates buying 370 box cars, 50 gondola cars and 80 cattle cars. Dr. L. Orsini is traffic manager, Sao Paulo, Brazil.

PASSENGER CARS

THE CHICAGO, BURLINGTON & QUINCY has ordered from the Edward G. Budd Manufacturing Company, Philadelphia, Pa., a fourth car to be added to the Zephyr. The road has asked for the quickest possible delivery due to the fact that the Zephyr has increased traffic on this line to the point where the original equipment will not carry the daily traffic and it has been necessary to put on a steam train to follow the Zephyr and take care of the overflow.

IRON AND STEEL

THE NORTHERN PACIFIC has ordered 10,000 tons of rails; 500 tons from the Colorado Fuel & Iron Company; 6,000 tons from the Illinois Steel Company, and 3,500 tons from the Bethlehem Steel Company.

MISCELLANEOUS

THE WESTERN MARYLAND has ordered from the Valve Pilot Corporation, New York, four Loco Valve Pilots which will be applied on freight power.

THE BOSTON & MAINE has ordered from Fafnir Bearings Incorporated, New Britain, Conn., anti-friction roller bearings to be applied to 21 of its new passenger cars.

THE NEW YORK, NEW HAVEN & HARTFORD is equipping ten of its new passenger cars with anti-friction roller bearings furnished by Fafnir Bearings Incorporated, New Britain, Conn.

THE NEW YORK CENTRAL'S streamlined locomotive, the "Commodore Vanderbilt," is equipped on all driving axles, engine truck and tender trucks with roller bearings furnished by the Timken Roller Bearing Company, Canton, Ohio.

THE GULF, MOBILE & NORTHERN'S two new high-speed streamlined four-car passenger trains will be equipped with bearings and boxes to be furnished by the Timken Roller Bearing Company, Canton, Ohio, the order having been placed by the American Car & Foundry Company, which is building the equipment at its Berwick, Pa., plant.

THE PENNSYLVANIA has placed contracts aggregating $71,000 for the laying of approximately 4,500 ft. of submarine cable in connection with the electrification of the railroad between New York, Philadelphia, Pa., Baltimore, Md., and Washington, D. C. These contracts cover work at Perryville, Md., where the railroad crosses the Susquehanna river; at Wilmington, Del., at the crossing of the Christiana river and at Washington, D. C., for the freight line where it crosses the Anacostia and Potomac rivers. The cable installations will carry under the several rivers the railroad's telephone and signal wires as well as trolley feed wires and track circuits. The 132,000-volt high tension electric transmission wires are carried over these rivers on high pole lines alongside the track.

Air Conditioning

Pullman, Inc., has ordered fans from the B. F. Sturtevant Company, Hyde Park, Boston, Mass., for air conditioning 878 cars.

The Illinois Central System has ordered four sets of American Car & Foundry Company's thermal gravity air-conditioning systems.

The Great Northern will air-condition all passenger equipment on the Empire Builder, including day coaches and tourist sleeping cars. A total of 43 Pullman cars will be air-conditioned.

Supply Trade

John S. Garceau has been appointed advertising and sales promotion manager of the air conditioning division of the **Kelvinator Corporation,** Detroit, Mich.

David K. E. Bruce has been elected a director of the **American Locomotive Company,** New York, to fill the vacancy caused by the resignation of **Seward Prosser.**

H. N. Pickett, formerly advertising manager of the Daily Metal Trade, has been appointed advertising manager of the **Toncan Culvert Manufacturers' Association,** Youngstown, Ohio.

The Republic Steel Corporaton is spending $500,000 for a new building and new finishing equipment in its Youngstown, Ohio, electric weld tube mills. The new building will house equipment and provide additional storage space for finished pipe.

C. Parker Holt has been made executive vice-president of the **Caterpillar Tractor Company,** Peoria, Ill. **Thomas J. Conner** has been appointed vice-president in charge of manufacturing and has been elected a director to fill the vacancy on the board caused by the recent death of **Pliny E. Holt.**

C. T. Ressler, manager of railroad and marine sales of the **Reading Iron Company,** has been appointed specification engineer, sales division, with headquarters at Philadelphia, Pa.; **R. I. Fretz,** district sales representative at Columbus, Ohio, has been appointed manager of eastern railroad and marine sales, with headquarters at Philadelphia; **C. W. Guthrie,** salesman in the New York district, has been appointed district sales representative for the Columbus territory; **Bryant Myers** has joined the company's Pacific Coast sales force, with headquarters at San Francisco, Cal.; **E. S. Morrow** has joined the oil territory sales force with headquarters at Tulsa, Okla., and **F. B. Olcott** has been appointed special representative for the purpose of handling government business with headquarters at Washington, D. C.

The Delaware Tool Steel Corporation, Wilmington, Del., announces that **Richard D. Fletcher** has been appointed district manager in its railway department. Mr. Fletcher will also act as factory representative for the **Armstrong-Blum Manufacturing Company,** Chicago, and **Skilsaw, Inc.**; the **Arthur Colton Company,** Detroit, Mich., and the **Arrow Tool & Reamer Company**; the **Goodall Rubber Company,** Philadelphia, Pa.; and the **Marlo Company,** New York. Mr. Fletcher, who is well known in the railway mechanical field and in the supply trade, was machine shop foreman at the Belt Railway of Chicago shops, and subsequently secretary-treasurer of the American Railway Tool Foremen's Association, as well as being a member of the International Railway General Foremen's Association and associate of the American Society of Mechanical Engineers. For a period of about sixteen years, Mr. Fletcher represented the Crucible Steel Company of America, railway department.

Don C. Wilson is again associated with **Thomas A. Edison, Inc.,** as railway sales assistant to the vice-president and manager of the Storage Battery division. He is well-known in the railroad field, having been electrical engineer, respectively, of the Union Pacific and the Central of Georgia. In his previous connection with the

Don C. Wilson

Edison Company, he was manager of the railway department. During the past five years, he developed, manufactured and sold Wilson shock-proof portable lamp guards to railroads, utility and manufacturing companies, under the name of D. C. Wilson Company. This line of products has been sold to the Safeguard Electric Company, 30 Church street, New York. In his new position, Mr. Wilson will devote all of his time to the sale in the railroad field of Edison storage batteries.

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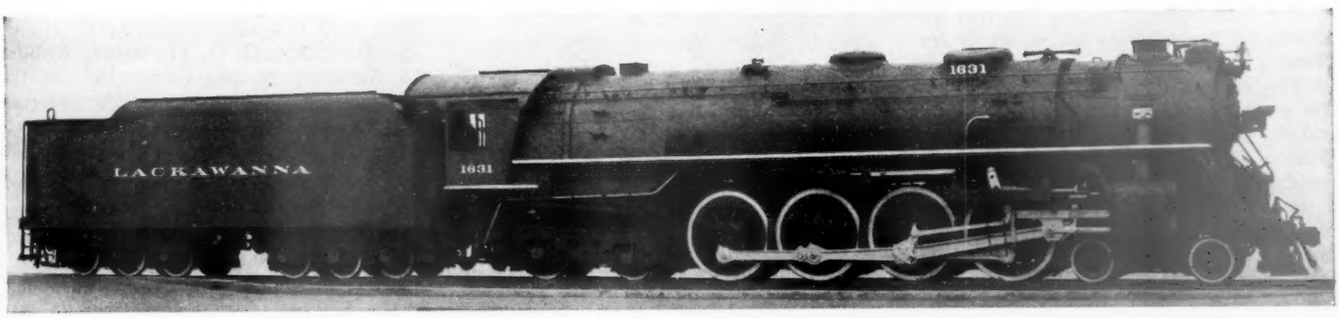
NEW POWER
ON THE LACKAWANNA



Weight on Drivers, 274,000 pounds; Weight of Engine, 447,000 pounds; Cylinder, 28 x 32 inches; Diameter of Drivers, 74 inches; Boiler Pressure, 250 pounds; Maximum Tractive Power, 72,000 pounds.

Built for high-speed heavy passenger and freight service.

Designed to sell transportation at a price, with due regard for speed, safety, and passenger comfort; all-around service and dependability irrespective of weather conditions; and against all manner of competition.

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Financial

BANGOR & AROOSTOOK.—*Offers to Exchange Securities.*—This company has offered to holders of three issues of its 5 per cent extension bonds a par exchange for a like amount of the company's stamped convertible consolidated refunding mortgage 4 per cent bonds, due in 1951. The three issues of extension bonds are the Medford Extension first mortgage, due in 1937, and the St. John River Extension and Washburn Extension first mortgage bonds, due 1939. Exchanges will be effected at the offices of Brown, Harriman & Co., New York and Boston.

CHICAGO & WESTERN INDIANA.—*Bonds.*—Brown, Harriman & Co., Edward B. Smith & Co., Kidder, Peabody & Co., Field, Glore & Co., and the Lee Higginson Corporation are offering $6,100,000 of first and refunding mortgage 5½ per cent, Series A, bonds of this company due 1962. The issue is priced at 102½, to yield 5.32 per cent.

CHICAGO, ROCK ISLAND & PACIFIC.—*Equipment Trust.*—A committee has been formed to represent the interests of holders of equipment trust certificates of this company, following the default on December 1 in payment of the principal maturities on its series L and series Q certificates, and the proposed abandonment by the trustees of their plan under which the payment of $4,067,000 of certificates was to be deferred for three years. A hearing will be held on an early date by the federal court in Chicago to consider a proposal of the trustees to pay interest on the certificates, but to defer the payment of principal indefinitely. The chairman of the committee is Phillip A. Benson, president of the Dime Savings Bank, Brooklyn, N. Y.

ILLINOIS CENTRAL.—*Proposed Merger of Subsidiaries.*—Officers of this company have been in correspondence with the Interstate Commerce Commission regarding a plan for consolidating its subsidiary lines north of the Ohio River and the issuance of new refunding mortgage bonds against the consolidated properties.

MISSOURI PACIFIC.—*I. C. C. Investigation of Financial Transactions Asked.*—A committee including in its membership Charles A. Beard formerly Professor of Politics at Columbia University, and Mathew Josephson, a writer who has attacked the financial transactions of this company in an article appearing in the current issue of Harpers Magazine, has been formed, and holds itself out to represent the company's bond holders.

"Inasmuch as the chief committees now offering to protect bondholders," the statement of the new committee reads, "include in their membership representatives of banking firms that have had connection with some of these transactions, the undersigned have concluded that the necessity for an independent committee having no relation to any of these bankers is imperative. The undersigned own or represent Missouri Pacific bonds. We believe that a thorough investigation is needed to ascertain all details of all transactions adversely affecting the Missouri Pacific. We believe, also, that suits should be commenced against all parties who had a hand in transactions contrary to the interest of Missouri Pacific, whether they were directors or officers of the road, or its bankers. Thorough investigation will have the added value of disclosing measures which should be adopted in the reorganization and indicating the people who should be excluded from the reorganization of this company. The investigation we propose, and for which we shall strive, should be conducted by the Interstate Commerce Commission."

NORTH & SOUTH.—*R.F.C. Loan.*—The receivers have applied to the Reconstruction Finance Corporation for a loan of $10,500,000 to complete the construction of the line from Miles City, Mont., to Caspar, Wyo., 331 miles, which was begun in 1923 and of which 41 miles has been completed. The application said the line if completed would be an ideal feeder for the Chicago, Milwaukee, St. Paul & Pacific or the Northern Pacific and that it was believed that one of those companies would lease the line at a rental that would pay off the loan in 20 years. As security for the loan the applicants offered first mortgage bonds.

PITTSBURGH & WEST VIRGINIA.—*To Pay December Interest.*—This company will pay within the next few days interest due December 1 on its first mortgage 4½ per cent bonds, which payment is defaulted.

TENNESSEE CENTRAL.—*R. F. C. Loan.*—This company has applied to the Reconstruction Finance Corporation for a loan of $500,000 to purchase from the holders 50 per cent of an issue of $1,000,000 of Nashville Terminal first mortgage bonds maturing January 1, under a plan for an extension of the remaining 50 per cent for five years and a reduction in interest rate from 6 to 5 per cent.

WABASH.—*Securities.*—In connection with this road's application for approval of a Public Works Administration loan of $2,350,000 for the completion of a bridge across the Missouri River at St. Charles, Mo., the receivers of the Wabash and the Wabash-St. Charles Bridge Company have applied to the Interstate Commerce Commission for authority to issue $2,350,000 of the bridge company's first mortgage 4 per cent bonds and for the assumption of liability by the Wabash as lessee.

Average Prices of Stocks and of Bonds

	Dec. 11	Last week	Last year
Average price of 20 representative railway stocks..	36.01	37.40	40.64
Average price of 20 representative railway bonds..	75.08	74.35	67.84

Dividends Declared

Alabama Great Southern.—Common, $2.00, payable December 31 to holders of record December 17; Preferred, $1.50, semi-annually, payable February 27 to holders of record January 22.

New York & Harlem.—$2.50, semi-annually; Preferred, $2.50, semi-annually, both payable January 2 to holders of record December 14.

Philadelphia & Trenton.—$2.50, quarterly, payable April 10 to holders of record March 30.

Virginian.—Common, $2.00, payable January 2 to holders of record December 20.

West Jersey & Seashore.—$1.50, semi-annually, payable January 2 to holders of record December 15.

Railway Officers

FINANCIAL, LEGAL AND ACCOUNTING

B. B. Burnquist, attorney of Ft. Dodge, Iowa, has been appointed district attorney for the Illinois Central in the states of Iowa, Minnesota, Nebraska and South Dakota, succeeding Judge **E. M. McCall,** deceased. In this capacity, Mr. Burnquist becomes a member of the law firm of Helsell, Burnquist, Bradshaw & Doliver, of Ft. Dodge, to succeed Judge McCall, the name of the firm being changed from Helsell, McCall & Doliver.

OPERATING

W. J. McLean, assistant superintendent for the Canadian Pacific at North Bend, B. C., has been appointed superintendent of the Kettle Valley division, succeeding **T. H. Crump,** retired.

A. F. McIntyre, trainmaster on the Delmarva division of the Pennsylvania, has been transferred to the St. Louis division, with headquarters at Terre Haute, Ind., succeeding **D. D. Flanagan. Robert L. Agnew,** assistant trainmaster on the Philadelphia division, has been transferred to the St. Louis division, with headquarters at Rose Lake, Ill., succeeding **P. W. Neff,** who has been transferred.

Lloyd Crocker, whose appointment as superintendent of the Wilmington district of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was noted in the *Railway Age* of November 24, was born on September 22, 1883, at Seaboard, N. C. He attended Seaboard & Roanoke Institute and Richmond College, Richmond, Va. Mr. Crocker entered railroad service in 1902 as baggagemaster on the Atlantic Coast Line and was appointed flagman in October, 1903. He became conductor in January, 1904, acting trainmaster in April, 1924, and trainmaster in November, 1925. The following month he became superintendent in which position he served until June, 1933, when he was appointed trainmaster on the Wilmington district. This latter position he has held until his recent appointment.

Owen Hendrix Page, whose appointment as general superintendent of the northern division of the Atlantic Coast Line at Savannah, Ga., was noted in the *Railway Age* of November 24, was born on January 17, 1877, at Lillington, N. C. Mr. Page entered railroad service in November, 1889, as messenger boy on the Cape Fear & Yadkin Valley (now part of the Atlantic Coast Line), and for the next decade he served successively as operator, stenographer and secretary. He was transferred in March, 1899, to Wilmington, N. C., as operator in the chief dispatcher's office and in May of the same year he became assistant chief clerk to the superintendent of transportation, later being promoted to lost car and special agent doing

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Centralizes **control of train movements in charge of one instead of a group of operators.**

Transmits orders instantly **and directly by signal indication without requiring cooperation of second party.**

Provides safety **by making it impossible for opposing trains to get clear signal for the same block.**

Costs less **than any alternative capital improvement providing equivalent increase in capacity.**

Saves most **train time per dollar of investment.**

Considering these advantages, together with the many others obtained through installation of "Union" C. T. C., can you afford to overlook its possibilities on your road? Our engineers will be glad to assist in estimating its benefits on any division, without obligation « « « « «

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investigation work for the superintendent of transportation and general manager. Mr. Page was a trainmaster from 1900 until 1902 and next served, first, as chief clerk to the superintendent of transportation, first division, at Wilmington, and then as chief clerk to the general superintendent of transportation for the Atlanitc Coast Line System. He was assigned to the first division at Wilmington as acting superintendent of transportation in February, 1905, and in September of that year he became superintendent of the Fayetteville district at Rocky Mount, N. C. In January, 1907, he became superintendent of transportation on the third division at Jacksonville, Fla., and in June, 1919, he was appointed, in addition, acting general superintendent of that division. In these capacities he served for two years or until July, 1921, when he relinquished the acting general superintendency but continued as superintendent of transportation until April, 1930, with the exception of the period from April, 1923, to September, 1926, when he was general superintendent of the third division. He was general superintendent of the first division at Rocky Mount from April, 1930, until June, 1933, and from the latter date until his recent appointment he was assistant general superintendent of the consolidated northern division at Rocky Mount.

Roderick G. Murchison, whose appointment as superintendent of the Richmond district of the Atlantic Coast Line at Rocky Mount, N. C., was noted in the *Railway Age* of November 24, was born on January 6, 1885, at Chatham County, N. C. Mr. Murchison attended the Fayetteville, N. C., public schools and in July, 1897, entered the service of the Cape Fear

R. G. Murchison

and Yadkin Valley (now part of the Atlantic Coast Line) as messenger boy. In May, 1904, Mr. Murchison became yard clerk at Rocky Mount, N. C., and in January, 1905, chief yard clerk. He was appointed trainman of the Fayetteville district in November, 1905, and he became conductor on the same district in January, 1907. From September, 1918, until November, 1925, he served as assistant trainmaster at Fayetteville, N. C., assistant trainmaster in charge of the South Rocky Mount terminal, trainmaster of the Norfolk district and later of the Fayetteville district, which position he has held until his recent appointment.

Norman M. Lawrence, whose appointment as superintendent of the Erie & Ashtabula division of the Pennsylvania at New Castle, Pa., was noted in the *Railway Age* of November 24, was born in Chambersburg, Pa., on June 7, 1890. He attended public schools and Chambersburg Academy and in July, 1906, entered the service of the Cumberland Valley (now part of the Pennsylvania) as clerk in the purchasing agent and storekeeper's office. He attended Pennsylvania State College from 1907 to

N. M. Lawrence

1911, and during vacations and until August, 1913, was employed in the Cumberland Valley engineering corps and as foreman on construction work. On the latter date he was transferred to the Pennsylvania as rodman on the Tyrone division, serving in that capacity until his entrance into military service in August, 1917. In June, 1919, he returned to railroad service as assistant supervisor on the Cresson division, next serving successively on the Philadelphia and the Maryland divisions in the same capacity and as supervisor of track on the Williamsport and New York divisions. Mr. Lawrence was appointed division engineer on special duty in the office of the general manager, Eastern region, Philadelphia, Pa., in July, 1928, with later service as division engineer on the Elmira, St. Louis and Philadelphia terminal divisions.

MECHANICAL

E. Becker, master mechanic of the Green Bay & Western, has been appointed to the newly-created position of superintendent of motive power and equipment, with headquarters as before at Green Bay, Wis.

ENGINEERING AND SIGNALING

E. E. Young has been appointed division engineer of the Hannibal division of the Chicago, Burlington & Quincy, with headquarters at Hannibal, Mo., succeeding **F. W. Jansky,** deceased.

F. E. Bates, assistant bridge engineer of the Missouri Pacific, and formerly bridge engineer, has been re-appointed to the latter position and **S. L. Wonson,** assistant chief engineer and bridge engineer, has had his title changed to assistant chief engineer. The headquarters of Mr. Bates and Mr. Wonson are at St. Louis, Mo.

SPECIAL

Gardner C. Hudson, formerly associate editor of *Railway Age,* has been appointed executive secretary of the Kentucky Railroad Association with headquarters at Louisville, Ky.

OBITUARY

Clarence B. Rex, general auditor of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., died suddenly on November 27.

W. L. Evans, general agent for the Louisville & Nashville, at St. Louis, Mo., died suddenly on December 2 of a heart attack.

Thomas F. Toughey, formerly master mechanic of the Buffalo Creek, died on December 1, of a heart attack, at the age of 81. Mr. Toughey retired about 10 years ago.

F. W. Jansky, division engineer of the Hannibal division of the Chicago, Burlington & Quincy, with headquarters at Hannibal, Mo., died on November 26 following an illness of several months.

William H. Bremner, receiver of the Minneapolis & St. Louis and formerly president of the company, died on December 11 at his home at Minneapolis, Minn. at the age of 65 years.

Frederick Montmorency assistant freight traffic manager of the Chicago, Burlington & Quincy with headquarters at Chicago died at San Francisco on December 4.

T. C. Mulligan, chief of operations, Railroad Marine Service at New York, died on December 6 at his home in Jersey City of a cardiac thrombosis at the age of 52. Mr. Mulligan was born at Upper Lehigh, Pa., on August 20, 1882, and received a high school education. He entered railway service in February, 1899, with the Central of New Jersey as a clerk in the supervisor's office at White Haven, Pa., and in August of the following year he became a clerk in the supervisor's office at Jersey City, N. J. He was promoted to chief clerk in the same office in 1907 and in 1914 he became chief clerk in the office of the engineer maintenance of way, with headquarters at Jersey City. In 1918, he was appointed assistant chief clerk to the general manager of the Philadelphia & Reading (now Reading Company) and the Central of New Jersey and in 1920 was promoted to chief clerk to the president and general manager of the Central of New Jersey. Mr. Mulligan became chief clerk to the general manager of the same company in 1922, and in 1925 was appointed manager of the Marine department of that road. He was appointed chief of operations of the Railroad Marine Service in July, 1933.